

brother joseph w.  
**STANDER**  
SYMPOSIUM

**April 2013**



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# Table of Contents

Letter from the President and Provost.....	1
Letter from the Co-chairs .....	2
About the Stander Symposium.....	3
Acknowledgements .....	4-5
Schedule of Events.....	6-7
Keynote Speaker.....	8
Celebration of the Arts .....	9-14
College of Arts & Sciences.....	15-106
School of Business Administration .....	107-116
School of Education & Allied Professions .....	117-130
School of Engineering .....	131-154
Index of Students .....	155-171
Index of Advisors .....	173-180



# Letter from the President and Provost

April 2013

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.

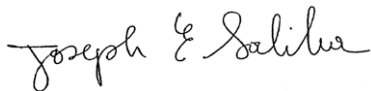
We would like to offer our gratitude to the University's faculty and staff. Your lasting commitment and enthusiasm for success are the building blocks of this annual tradition. The road to student accomplishment is paved through your achievements.

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.  
President



Joseph E. Saliba, Ph.D.,  
Provost

# Letter from the Co-Chairs

April 2013

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 the 23rd 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,



David Darrow, Ph.D.  
Co-Chair, Stander Symposium  
Associate Professor,  
History Department; Director,  
University Honors Program



Linda Hartley, Ph.D.  
Co-Chair, Stander Symposium  
Professor,  
Music Department



# About the Stander Symposium



**Brother Joseph W. Stander, S.M.**  
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 cliché 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 year's symposium. With over 1,700 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 Education, 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 Kelly Kleinschmidt and Lauren Banfield for their efforts in developing and creating this year's visual design.

# **Committee Recognition**

## **Co-Chairs**

David Darrow, Associate Professor, Department of History; Director, University Honors Program  
Linda Hartley, Professor, Department of Music

## **Steering Committee**

Deborah J. Bickford, Office of the Provost  
John Doty, Department of Engineering Management and Systems  
Rick Ghere, Department of Political Science  
Re'Shanda Grace-Bridges, Student Development/New Student Orientation  
Elizabeth Gustafson, School of Business Administration  
Diane Helmick, Graduate Academic Affairs  
Judith Huacuja, Department of Visual Arts  
Katy Kelly, University Libraries  
Kathryn Kinnucan-Welsh, Department of Teacher Education  
Brian LaDuca, ArtStreet  
Amy Lopez-Matthews, Student Life & Kennedy Union  
Mike O'Hare, Department of Physics  
Patrick Reynolds, Department of Music  
Shawn Swavey, Department of Chemistry  
Kathleen Watters, Department of Communication

## **Celebration of the Arts Committee**

Darrell Anderson, Director, Theatre Program  
Paul Benson, Dean College of Arts & Sciences  
Sharon Gratto, Chair, Department of Music  
Judith Huacuja, Chair, Department of Visual Arts  
Brian LaDuca, Director, ArtStreet  
Patrick Reynold, Department of Music  
Teri Rizvi, University Communications

## **Graphic Design**

Kelly Kleinschmidt, Visual Communication Design, Department of Visual Arts '13  
Lauren Banfield, Visual Communication Design, Department of Visual Arts '14

## **Celebration of the Arts Intern**

Kathleen Gaffney, Communication and Visual Arts '14

## **Stander Coordinator**

Andrea Meyer Wade

## **SCHEDULE OF EVENTS**

### **Monday, April 18**

CELEBRATION OF THE ARTS

Schuster Center

#### **OPENING PERFORMANCE**

8:00 PM

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 16**

#### **MASS OF THE HOLY SPIRIT**

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.

#### **KEYNOTE ADDRESS BY**

RecPlex, Main Gym

#### **SIR KEN ROBINSON**

7:30 PM

Sir Ken Robinson is an internationally recognized leader in the development of education, creativity and innovation. He speaks to audiences throughout the world on the creative challenges facing business and education in the new global economies. His *New York Times*' Best Seller, *The Element: How Finding Your Passion Changes Everything*, has been translated into 21 languages. Free and open to the public, tickets not required. A book signing will follow his talk. Parking available in lot C.

## SCHEDULE OF EVENTS

### Wednesday, April 17

#### DAY AT THE STANDER

RecPlex, Kennedy Union and Various  
Campus Locations, 8:00 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 CPC Gallery 249.

#### FREE BREAKFAST

RecPlex, Main Gym  
8:00 AM-9:30 AM

#### POSTER SESSIONS

RecPlex, Main Gym  
9:00 AM-10:30 AM, Session I  
11:00 AM- 12:30 PM, Session II

#### ISSUE FORUM: "SHAPING OUR FUTURE: HOW SHOULD HIGHER EDUCATION HELP US CREATE THE SOCIETY WE WANT

Roesch Library  
1:00 PM, Session I  
3:00 PM, Session II

To register, visit the forum webpage at [udayton.edu/provost/stander/issuforum.php](http://udayton.edu/provost/stander/issuforum.php). This year during the Stander Symposium, students from Political Science 300 Honors: Democracy, Deliberation, and Education, will offer an opportunity for members of the University of Dayton community--students, faculty, and staff--as well as, members of the greater Dayton community, to engage one another in thoughtful deliberation about these questions and others related to higher education's role in our society. The community forum will be an opportunity to share values and ideas and to have an open conversation with people who have different views. Background materials will be provided to those interested in participating.

#### CELEBRATION OF THE ARTS

CPC Gallery 249

#### CLOSING VISUAL ARTS EXHIBITION AND 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.

# Sir Ken Robinson 2013 Keynote Speaker

Tuesday, April 16, 2013  
7:30 PM

RecPlex - Main Gym  
*University of Dayton Speaker Series Co-Sponsored event*  
*Book signing to follow talk.*

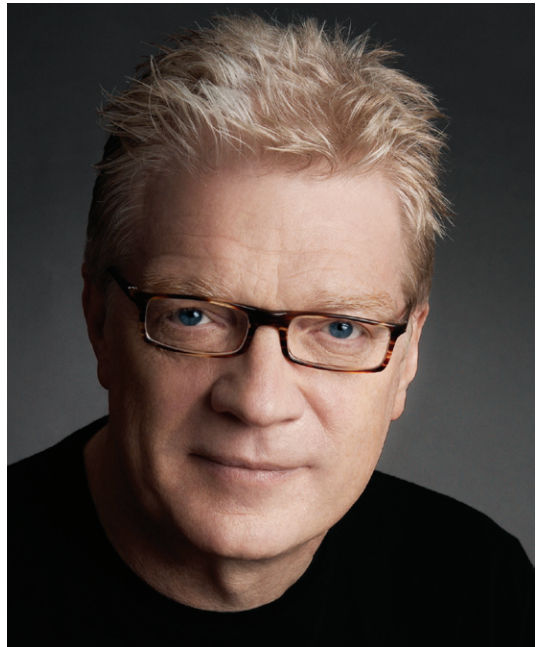
### **“Out of Our Minds: Learning to Be Creative”**

Sir Ken Robinson is an internationally recognized leader in the development of education, creativity and innovation. His *New York Times*’ Best Seller, *The Element: How Finding Your Passion Changes Everything*, has been translated into 21 languages. The videos of his famous 2006 and 2010 talks to the prestigious TED Conference have been seen by an estimated 200 million people in over 150 countries.

He works with governments in Europe, Asia and the USA, with international agencies, Fortune 500 companies and some of the world’s leading cultural organizations. In 1998, he led a national commission on creativity, education and the economy for the UK Government.

For twelve years, he was professor of education at the University of Warwick in the UK and is now professor emeritus. He has received honorary degrees from the Rhode Island School of Design, Ringling College of Arts and Design, the Open University and the Central School of Speech and Drama, Birmingham City University and the Liverpool Institute for Performing Arts. He has been honored with the Athena Award of the Rhode Island School of Design for services to the arts and education; the Peabody Medal for contributions to the arts and culture in the United States,

the LEGO Prize for international achievement in education and the Benjamin Franklin Medal of the Royal Society of Arts for outstanding contributions to cultural relations between the United Kingdom and the United States. In 2005, he was named as one of TIME/FORTUNE/CNN’s ‘Principal Voices’. In 2003, he received a knighthood from Queen Elizabeth II for his services to the arts. He speaks to audiences throughout the world on the creative challenges facing business and education in the new global economies.



# **CELEBRATION OF THE ARTS**

**Monday, April 8**

**Benjamin & Marian Schuster Performing Arts Center**

6:30 PM in the Wintergarden

University of Dayton Piano Ensemble

Dr. Eric Street, Director

University of Dayton Early Music Ensemble

Dr. Samuel N. Dorf, Director

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

### **Individual Student Artists**

Erin Bolles

Meaghan Crowley

Jaimie Kasper

Clayton Kindred

Jill Pajka

Jennifer Province

Caroline Thomas

Karli Tomaselli

Krista Walker

### **Faculty-mentored student collaborative art installations**

#### *The One and the Many*

Glenna Jennings, faculty mentor

#### *Mother Nature*

Kyle Phelps and Geno Luketic, faculty and staff mentors

#### *Four Months in Three Days*

Gary Marcinowski, faculty mentor

#### *There Is a Light That Never Goes Out*

Jeffrey Cortland Jones, faculty mentor

# **CELEBRATION OF THE ARTS**

## **Celebration of the Arts Program**

*The program will be performed without intermission.*

JOURNEY OF THE  
21st CENTURY VOICE

Devised New Work

### **ArtStreet**

Brian LaDuca, Director

JANGER (TRADITIONAL BALINESE DANCE, SUNG IN BALINESE) arr. Budi Susanto Yohanes

**University of Dayton World Music Choir**

Dr. Sharon Davis Gratto, Director

**University of Dayton Javanese Gamelan**

Dr. Heather MacLachlan, Director

WELCOME

Jane Black and Michael Roediger,  
Directors, Dayton Art Institute

UNIVERSITY OF DAYTON WELCOME

Dr. Daniel J. Curran, President

MISIONERA

Fernando Bustamente  
arr. James McCutcheon

**University of Dayton Guitar Ensemble**

Jim McCutcheon, Director

BLUES AND THE  
ABSCESSED TOOTH

Matt Catingub

**Dayton Jazz Ensemble**

Dr. Willie L. Morris, III, Director

"NINETEEN"

**Orpheus Magazine Reading**

Bobby Beebe



# ***CELEBRATION OF THE ARTS***

**"CONCERTINO": I. MAESTOSO** Alexander Mitushin

**University of Dayton Horn Quartet**

Aaron Brandt, Director

**JIG, FROM ST. PAUL'S SUITE,** Gustav Holst  
**OP. 29, NO. 2**

**University Orchestra**

Dr. Patrick Reynolds, Conductor

**ARTS AT THE UNIVERSITY OF DAYTON** Video

**CANTUS GLORIOSUS** Jozef Swider  
**SEE 'DAT BABE** arr. Stacey Gibbs

**University of Dayton Chorale**

Dr. Robert Jones, Conductor

John Benjamin, Accompanist

***THE WINTER'S TALE*** William Shakespeare

Leontes: Alex Chilton

Paulina: Beverly Dines

Lord 1: Suhaib Baghdadi

Lord 2: Brandon Woods

**University of Dayton Theatre**

Linda Dunlevy, Director

**RAINBOWS** Alice Gomez  
(In commemoration of the 1913 flood.)

I. Raindrops

II. The Flood

III. Rainbows

**University of Dayton Drumline**

James Leslie, Director

**Dayton Contemporary Dance Company**

Debbie Blunden-Diggs, Artistic Director

# CELEBRATION OF THE ARTS

"HOW TO GET TO HEAVEN FROM OHIO"

**Orpheus Magazine Reading**

Ellie Klug

CAVE OF THE WINDS

Russell Peck

**Symphonic Wind Ensemble**

Dr. Patrick Reynolds, Conductor

INTRODUCTION OF LUCY SIMON

Dr. Linda J. Snyder

SPEAKING ON THE ARTS

Lucy Simon, Guest Composer-In Residence

*THE SECRET GARDEN* (EXCERPTS)

music by Lucy Simon

"How Could I Ever Know"

book and lyrics by

"Come Spirit Come Charm"

Marsha Norman

Lily: Elisha Evanko

Archibald: Justin Padmore

Dickon: Ben Huey

Mary: Dana Clark

Colin: Elizabeth Amato

Martha: Alissa Plenzler

**Opera Workshop**

Dr. Minnita Daniel-Cox, Co-Director

Dr. David Sievers, Co-Director and Keyboards

**University of Dayton Chorale**

Dr. Robert Jones, Conductor

**University of Dayton Dance Ensemble**

Richard Mosley, Artistic Director

Choreography: Richard F. Mosley II

Costumes: Donna Beran

# **CELEBRATION OF THE ARTS**

ULLA IN AFRICA

Heiner Wiberny

**First Flight Saxophone Quartet**

Dr. Willie L. Morris, III, Director

**CLOSING REMARKS**

Jane Black and Michael Roediger

*HALLELUJAH FROM*

arr. M. Warren, M. Jackson,

*HANDEL'S MESSIAH:*

M. Kibble, T. Chinn

**A SOULFUL CELEBRATION**

Gerald Cox, tenor

Anthony Trifiletti, keyboard

Tommy McGuffey, piano

Jamil Oliver, drums

Charles Oliver, bass

Michael Francis, trumpet

Michael Jones, trombone

Christopher Satariano, tenor saxophone

**Members of Choral Union**

Dr. Robert Jones, Director

**University of Dayton Ebony Heritage Singers**

Dr. Donna M. Cox, Conductor

**University of Dayton Percussion Ensemble**

James Leslie, Director

**Dayton Contemporary Dance Company 2**

Shonna Hickman-Matlock, Artistic Director

Choreography: Crystal Michelle

**Wednesday, April 17**

UD College Park Center, Gallery 249

**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.

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 Institutional and Individual Causes of Political Corruption in the United States**

**STUDENTS** Ben J. Morris

**ADVISORS** Arthur J Jipson, Nancy A Miller

**LOCATION, TIME** St. Joseph's Hall 013, 9:00 AM-10:00 AM

Criminal Justice Program, Presentation - Capstone Project

The aim of this project is to draw attention to the particular red flags of political corruption. Distinguishing a corrupt political relationship is not exactly easy or well defined. By examining this project the researcher hopes to shed light on causes of governmental corruption such as institutional and individualistic in hopes of curbing future corruption. Also, not much policy against political corruption exists except general illegality. This paper suggests potential policy changes in expectations of deterring politicians from accepting bribes. A single person may be corrupt under a particular institution for many reasons. This person, in context of this research paper the person is a politician, may feel entitled or as if his or her power entitles them to added advantages the average person is not. On the other hand, an entire regime or sector of politics may be corrupt which leads a whole host of politicians to become corrupt simply because it is the norm. This research project widely uses qualitative research in addition to the principle-agent theory and theory of extractive corruption in an effort to portray analysis more in depth. Whether the reason for political corruption, the purpose of this research paper is to examine each and every possibility as to why exactly politically corrupt relationships exist.

## **The Impact of Using Live Animals Mascots at Universities**

**STUDENTS** Kathleen A Nicoletto

**ADVISORS** Paul J Becker, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 9:00 AM-10:00 AM

Criminal Justice Program, Presentation - Capstone Project

Mascots play a large role in the culture and identity of universities. The animal becomes integrated into the school's identity and culture and is able to strengthen the bonds students form with their Alma Mater. However, putting aside the tradition and culture, having such uncontrollable and wild animals presents major risks to the well-beings of animals and the students. The animal rights movement has expanded over the last century to include the treatment and use of live animal mascots. Through interviews with animal rights groups and university employees the risks and benefits of using live, specifically feral, animals will be evaluated. The evaluation is not meant to criticize either side of the argument, rather, is meant to provide more information on a relatively new debate.

## **Motor Vehicle Crimes and Victimization at the University of Dayton**

**STUDENTS** Andrew T Wallace

**ADVISORS** Paul J Becker, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 9:00 AM-10:00 AM

Criminal Justice Program, Presentation - Capstone Project

How can students deter motor vehicle crime? For the purposes of this research, motor vehicle crime will be categorized into auto theft, break-ins and vandalism. These crimes will be examined in different environments of urban, suburban and rural. Crime data is compared from the city of Dayton over the past ten years and university crime data from several Ohio universities. Victimization will be explained through the application of Routine Activities Theory and Crime Prevention through Environmental Design. The research project uses student surveys on security procedures to determine overall risk of victimization. This research will provide students with solutions to reduce risk of victimization for motor vehicle crimes.

## **Denatonium Sorption to Clay Minerals in Clay/Sand Mixtures: Should We Be Worried About This Compound?**

**STUDENTS** Kadeem A Clarke

**ADVISORS** Garry Crosson, Kenya M Crosson

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Chemistry, Poster - Independent Research

Municipalities around the country have recently enacted legislation mandating the addition of the aversive agent, denatonium benzoate, to formulations of automobile antifreeze in an effort to prevent or reduce ingestion by animals and humans alike. Denatonium benzoate contains the bitterest cation, denatonium, on the planet with humans being able to detect very low concentrations. Although well-intentioned, legisla-

## COLLEGE OF ARTS & SCIENCES

tion thus far has not been properly informed by empirical studies demonstrating that denatonium benzoate does not pose any environmental hazards. The principal concern associated with denatonium benzoate is likely accidental releases to the soil which could result in contamination of groundwater supplies. This work focuses on studying the removal of denatonium from aqueous solutions using mixtures of clay and sand. Generally, the data suggest that denatonium removal is directly proportional to the weight fraction of clay with the largest amount of denatonium removal occurring in the presence of smectite clays as opposed to kaolinite clays. Results of thermodynamic measurements are also presented and discussed in the context of removal favorability.

### **Identification of a compound that disrupts the primosome function in *Neisseria gonorrhoeae* DNA replication restart**

**STUDENTS** Michael A Jones

**ADVISORS** Matthew E Lopper

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Chemistry, Poster - Independent Research

*Neisseria gonorrhoeae*, the causative agent of gonorrhoea, is a gram negative pathogen. Due to its highly adapted genome, this pathogen elicits resistance to the oxidative damaging agents released by neutrophils of an infected host. During DNA replication, DNA damage contributes to genome instability that hinders the progression of the replisome. Furthermore, the bacterial genome happens to be one of the important targets of these damaging agents. However, studies indicate that DNA replication restart pathways provide bacterial cells with a mechanism to reactivate replisomes that have been disrupted in this way. In *N. gonorrhoeae*, DNA replication restart is a process carried out by the primosome proteins PriA and PriB. The first part of my research contributed to understanding the features of this pathway. Evidence that PriA plays an essential role in resisting the toxic effects of oxidative damaging agents enhances the importance of DNA replication restart pathway for the survival of this infectious bacterium. Developing antibacterial agents that affect this pathway could be an essential discovery in the field of medicine. In this process, an enzyme based assay was developed to use in high-throughput screening to identify potential compounds that inhibit the DNA replication restart pathway in *N. gonorrhoeae*. An initial screening of over several thousand compounds has produced several lead compounds that may potentially block this pathway. I worked with two of the lead compounds, penicillin G potassium salt and paroxetine hydrochloride hemihydrate, and here I report the mechanism by which paroxetine disrupts the DNA replication restart pathway.

### **Solution Structures of Amphiphiles**

**STUDENTS** Abigail A Bartosic, Jessica L Edwards

**ADVISORS** Robert G Keil

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Chemistry, Poster - Course Project, 13 SP CHM 498 06

Much is known about the formation of micelles from amphiphilic molecules and ions. Interaction of amphiphiles at less than Critical Micelle Concentration (cmc) is less well understood. Our research strategy was to make use of the cyclic voltammetry (CV) technique and measured viscosity to determine the ionic radii of Sodium Dodecyl Sulfate (SDS) structures in solution. The manner in which the measured diffusion coefficients and ionic radii change with respect to amphiphile concentration was of interest. Our strategy was centered upon four considerations. First, Ferrocene (Fc) was used as an electrochemical marker for amphiphile aggregate formation. Ferrocene should interact with the hydrophobic portions of the amphiphile structures. The concentration ratio of SDS to Fc was maintained around 240 to ensure one Fc per amphiphile moiety. Second, the solubility of Fc in deionized water was obtained as evidence of Fc interaction with SDS. It was anticipated that Fc solubility would be much smaller when the solution contained no amphiphile. Third, after demonstrating electrochemical reversibility, the Randles-Sevcik equation was used to calculate the Fc-SDS diffusion coefficient. Finally, from the measured solution viscosities and diffusion coefficients the ionic radii were computed from the Stokes-Einstein equations. Our results showed a definite deviation from normal micellar behavior at concentrations much less than cmc which will further help to understand the behavior of amphiphiles at concentrations less than the cmc.

### **Libel Law Exceptions for the Press in 2nd & 7th Circuit Courts of Appeals**

**STUDENTS** Mariah L Douglas, Lauren K Glass

**ADVISORS** Annette M Taylor

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Communication, Poster - Course Project, 13 SP CMM 432 01

Is the “prudent publisher test” from *Curtis v. Butts* -- specifically the urgency exception for the press in libel cases -- providing protection for journalists using Twitter and other social media? Also: How does the Seventh Circuit Court of Appeals define the “opinion” exception to libel law?

## Assessing Appellate Courts’ Definitions of Elements in Libel Law

**STUDENTS** Daniel J Cleveland, Sarah E Devine, Meredith A Whelchel

**ADVISORS** Annette M Taylor

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Communication, Poster - Course Project, 13 SP CMM 432 01

How do appellate courts interpret the meaning of defamatory, harm and actual malice in libel cases involving the news media?

## Journalists’ Rights under State Shield Laws

**STUDENTS** Megan M Garrison, Evan F Shaub

**ADVISORS** Annette M Taylor

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Communication, Poster - Course Project, 13 SP CMM 432 01

Are student journalists protected by the reporter’s privilege and state shield law in New York and Second Circuit Court of Appeals? Also: Do state laws protecting journalists from being forced to disclose confidential sources include writers using non-traditional media outlets? Is it time for a federal shield law?

## Legal Implications of Publishing National Secrets

**STUDENTS** Zachary T McAuliffe, Michael J Shuey

**ADVISORS** Annette M Taylor

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Communication, Poster - Course Project, 13 SP CMM 432 01

Could the press be prosecuted for treason for publishing stories about national security? What are the legal ramifications that the press faces when obtaining and publishing national security information obtained illegally by a third party?

## Press Access to Information about Student-Athletes and Municipalities

**STUDENTS** Connor J Mabon, Christopher M Moorman

**ADVISORS** Annette M Taylor

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Communication, Poster - Course Project, 13 SP CMM 432 01

Are universities properly applying FERPA to journalists’ requests for information about athletic programs and student-athletes? Are they withholding records, claiming they involve core educational and disciplinary records, when the documents should be open to the public? Also: Would implementation of an Ease of Access Test in Missouri and Florida, under their sunshine laws, allow journalists better access to municipal government information that is in the public interest?

## Legal Issues Confronting the News Media Concerning Politics, Murder and Undercover Reporting

**STUDENTS** Megan P Kennedy, Lindsay M Mudd, Carson M Smith

**ADVISORS** Annette M Taylor

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Communication, Poster - Course Project, 13 SP CMM 432 01

What constitutes a “legally qualified” political candidate, “equal time,” and “use” of broadcast facilities under the Federal Communication Commission provisions requiring equal access to the airways for political candidates? Also: Can murder defendants such as Troy Davis, Trayvon Martin, Casey Anthony and Jody Arias receive fair trials given the high-voltage national spotlight? How do courts define “massive, pervasive and preju-

## COLLEGE OF ARTS & SCIENCES

dicial publicity" that would prevent a fair trial?Also: How can journalists avoid legal liabilities when going undercover to seek information in the public interest?

### **Fidelity, Bravery, and Integrity: An Analysis of the Representations of FBI "G-Men" in Popular Media.**

**STUDENTS** Kevin Longacre

**ADVISORS** Jeffrey S Geers

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Communication, Poster - Course Project, 13 SP CMM 350 01

Before 1934, the use of the term "G-Man" referred to any agents working for the United States government. Around that time period, J. Edgar Hoover's special agents intentionally revolutionized the term making it exclusive to the Federal Bureau of Investigation's force. In the midst of World War II wartime, American military attention turned towards identifying and eliminating the communist and terrorist organizations that threatened the sanctity of American democracy. Among those efforts, there was a strategic transition in Hollywood film representations of law enforcement that reshaped the perceptions of Federal Bureau of Investigation G-Men forever. With the primary mission to "develop a comprehensive understanding of the threats and penetrate national and transnational networks that have a desire and capability to harm us," the FBI ultimately obtained the support of the people by shaping depictions in the media. This propagandistic project fueled by Hoover strategically combated popular culture that glorified prolific criminals such as "Machine Gun" Kelly through the War on Crime. In the 1930's and 1940's, for the first time ever, Hollywood films began to revolve around FBI G-Men as heroic protagonists. That shift from focusing on gangsters to praising G-Men had a casual effect that altered the perception of these law-enforcement officials in American society. This research serves to examine the deliberate domestic propaganda practiced throughout the past eighty years as a necessary element to understanding how Hollywood has shaped positive perceptions of the Federal Bureau of Investigation.

### **Patriotism and G.K. Chesterton**

**STUDENTS** Peter N Mills

**ADVISORS** Laura J Vorachek

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

English, Poster - Honors Thesis

This research project examines G.K. Chesterton's concept of patriotism, especially local patriotism, noting how this concept influenced his thoughts on war, travel, and economics. It also addresses contemporary discussions of patriotism by popular, contemporary media figures and how Chesterton's work might offer a more nuanced take on the subject.

### **Social Justice Club Poster Presentation on Homelessness**

**STUDENTS** Chloe E Brodner, Lindsey M Callihan, Hillary A Cook, Morgan A Hale, Rachel F Kapicak, Lindsay R Kapinus

**ADVISORS** Lori G Phillips-Young

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

English, Poster - Independent Research

As members of the Social Justice Service Club our mission is to support the Social Justice LLC and to advance the mission of social justice and the cause literacy throughout the Greater Miami Valley Region. In addition to that commitment, we are also charged with fulfilling a voluntary service learning commitment for our organization. During the 2012-2013 academic year, our service learning project was committed to the social justice issue of homelessness in Greater Miami Valley and more specifically the homeless in Montgomery County. Our poster presentation will discuss what we experienced as we volunteered over 150 hours of service at St. Vincent de Paul--a non-profit agency that serves the homeless. We will discuss the effects that being homeless has not only on the individuals and families, but also on the area and the region. Our combined experience gave us a very different perspective on this social issue and allowed us to gain a more enlightened perspective on the causes of homelessness and the effects of the cycle of poverty can have on families in the region. Our experience strengthened our Marianist belief in lead, learn, and serve.



## **Education in Dayton; A Social Justice Service Club Project**

**STUDENTS** Stephanie F Bartol, Mary M Cook, Pamela R Malone, Kelsey L Radabaugh

**ADVISORS** Lori G Phillips-Young

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

English, Poster - Independent Research

As members of the Social Justice Service Club, we are committed to the ideal of improving literacy in the surrounding Miami Valley Community. This project represents the culmination our service learning project for 2012-2013. For the past two semester we have tutored children in lower socioeconomic situations. We believe that a retrospective look at our service will not only feature the benefit of tutoring children who are struggling with basic literacy, but will promote an educational awareness of the seriousness of the issue that is in our own neighborhoods in the Miami Valley. Literacy is first and foremost a social justice issue. Our research is significant because it will demonstrate that by engaging these children at an early age and promoting literacy on a one-on-one basis we can be agents of change and models of the Marianist ideals of lead, learn and serve.

## **Social Justice Club Poster Presentation on Homelessness in Montgomery County**

**STUDENTS** Colin W Dee, Kyle S Fischer, Ryan D Hunn, Sean C Lynskey, Daniel M Tetelman

**ADVISORS** Lori G Phillips-Young, Margaret M Strain

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

English, Poster - Independent Research

As members of the Social Justice Service Club our mission is to support the Social Justice LLC and to advance the mission of literacy throughout the Greater Miami Valley Region. In addition to that mission, we are charged with fulfilling a voluntary service learning commitment for our organization. During the 2012-2013 academic year the social justice leadership houses of 238 and 240 Stonemill completed over 150 hours of service at St. Vincent de Paul--a non-profit organization that assists the homeless. Our poster presentation will reflect on our experiences serving that population. Our service gave us new perspective of the social justice issue of homelessness and its impact on individuals and families. During and after our service we came to better understand the social and emotional ravages of homelessness and the effect that poverty has on disadvantaged sectors of our society. Breaking that perpetual cycle of disadvantage is a social challenge. Our presentation will focus on our work and how it reinforces our commitment to the Marianist ideals of lead, learn, and serve.

## **Social Justice Club - Miracle Makers**

**STUDENTS** Kathleen Rose Garcia, Jenna E Gerstle, Elizabeth Eiga Grandi, Laura C Komoroski, Emma C Pick-erill, Samantha L Santoro

**ADVISORS** Lori G Phillips-Young, Margaret M Strain

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

English, Poster - Independent Research

As members of the Social Justice Service Club our mission is to support the Social Justice LLC and to advance the mission the cause literacy throughout the Greater Miami Valley Region. To that end, we are also charged with fulfilling a voluntary service learning commitment for our organization. This year in order to fulfill our obligation, we worked with the "Miracle Makers" After School Program at at the Ruskin Elementary School. As a service club co-hort, we were able to complete 150 hours of community service in the fall semester by mentoring the students, helping them with their homework, and engaging them in group and one-on-one recreational games. Our presentation will focus on our work and how it reinforces our commitment to the Marianist ideals of lead, learn, and serve.

## **Social Justice Service Learning Organization 2012-2013 Service Projects**

**STUDENTS** Andrew J Aronow, James A Brewer, Patrick Samuel Donnellon, Brian J Morman, Joseph Gennaro Palumbo, Eric Robert Perkovich

**ADVISORS** Lori G Phillips-Young, Margaret M Strain

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

English, Poster - Independent Research

The Social Justice Service Organization works with the Building Communities through Social Justice Learning and Living cohort to provide students with multiple opportunities to do service in the Great Miami Valley-Dayton community. As a part of the service organization, our six-man team

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completed two major service learning projects during 2012-2013. Our team volunteered for the Wheels for Kids project that repairs donated used bicycles at no charge and returns them to the community for children that need a bike. Our second service learning project involved a large painting project for St. Vincent De Paul Gateway Shelter for Women and Families. Our presentation highlights the work we did and the impact it had on us as servant leaders. We experienced first hand the Marianist principles of learn, lead, and serve.

### Take Back the Tap: UD River Steward 2013 Cohort Senior Project

**STUDENTS** Ellen L Comes, Nicole L Goettmoeller, Sabine Hahn, Kaitlin A Kenny, Andrew R. Kowalski, Taylor D Pair, Jill M Pajka, Milena L Pisani, Amy L Price, Lindsay C Rynne, Aaron V Sprague, Emily K Striebich, Tara E Sulzer, Ryan J Tuohy, Elizabeth C Wetzel

**ADVISORS** Richard T Ferguson, Leslie W King

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Fitz Center for Leadership in Community, Poster - Independent Research

Every fall college students arrive on campus with preconceptions about tap water, bringing cases of bottled water onto our campus. Bottled water has been found to be unsustainable as well as harmful to the environment, communities, and human health. The City of Dayton has very high quality drinking water in abundance, a fact which makes bottled water on our campus an unnecessary luxury. Each year the River Stewards, a co-curricular program which is housed in the Fitz Center for Leadership in Community, participate in a senior project that benefits the community in some way. This year, the 2013 River Stewards Cohort worked with the City of Dayton and NSO to help tackle the issue of bottled water on campus. The Stewards helped coordinate a water bottle free Fall 2012 orientation and educate incoming students about the quality of Dayton's tap water. This included collaborating with the City of Dayton to design, purchase, and give away special "Take Back the Tap" reusable water bottles to the incoming freshmen, as well as providing a water truck for students on campus to fill up their new water bottles. In addition, the senior cohort is currently partnering with Art Street in order to add a filling station on campus that will simultaneously educate about and provide access to tap water. The 2013 Cohort's Senior Project gave the Stewards the opportunity to apply the knowledge and leadership skills that they have acquired from three years in the River Steward Program.

### Contact Relationships between Goshen Dome rocks and surrounding schists, West-Central Massachusetts, USA

**STUDENTS** Megan P Ryan

**ADVISORS** Andrea M Koziol

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Geology, Poster - Course Project, 13 SP GEO 404 P2

Contact Relationships between Goshen Dome rocks and surrounding schists, West-Central Massachusetts, USA: Ryan, Megan P This study is undergraduate research involving field and petrographic research on a small (1-2 km) structural dome in West-Central Massachusetts. The dome was mapped by Hatch and Warren (1981; USGS map GQ-1561) as the Collinsville formation (Oco), a felsic biotite gneiss with layers of foliated hornblende-plagioclase amphibolite, in the core. A ring of Cobble Mountain formation (Ocb), interlayered feldspar-mica schist with quartz-feldspar-biotite gneiss, is mapped along the western to southern to eastern boundaries, but not on the northern boundary. The surrounding rocks are a gray carbonaceous quartz-mica schist grading in beds of quartz-mica-garnet-staurolite-plagioclase schist mapped as the Goshen formation (Dg). The whole structure is informally known as the Goshen Dome. I explored rocks of the north-west to determine contact relations between the Dg schist and the dome rocks of Oco and Ocb. One of my main projects was mapping the large outcrop on the northwest boundary of the dome in order to more carefully examine the Ocb formation and its contact with Oco. There is limited outcrop in this area, but I was able to map the contact and disappearance of Ocb along the northwestern boundary of the dome. I collected many samples to bring back for further examination and am currently making thin sections to get a closer look at rocks from Oco and Ocb under the microscope to prove my mapping of the contact is correct. Results will be presented at the final presentation.

### Geologic History of the Earth

**STUDENTS** Ryan K Longbrake, Eric W Schindler

**ADVISORS** Daniel Goldman

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Geology, Poster - Course Project, 13 SP GEO 116 01

There are three main components to this project. Each of these segments will have a designated area on a tri-fold poster board. The first topic of this project will analyze the early theorists, and their hypotheses on the origin of the Earth. The main geologists that will be included in the project are: Steno, Werner, Hutton, Cuvier, and Lyell. Explanations of all of these scientists' theories will be included in this segment. The next portion of the project will include more geologists and their ideas on dating the Earth. The early theories will be analyzed, along with their assumptions, up until Rutherford/ Curie and their discovery of radioactivity. The last component of the project will encompass the topic of evolution. This section will provide evidence being the theory of evolution, along with some counter-arguments of the theory. The conclusion of this topic will show our reasoning behind why we think evolution is a clear solution to the origin of metazoans and other organisms. In addition to information on the tri-fold, props will be included with each of the three sections of the project.

### **Ordovician Chitinozoan Biogeography and Paleocology: Examining the Effect of Habitat on Species Longevities**

**STUDENTS** Matthew J Oxman

**ADVISORS** Daniel Goldman

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Geology, Poster - Independent Research

The relationships between geographic range and evolutionary dynamics, including taxonomic duration, have been analyzed for a number of fossil groups, particularly benthic macrofossils. Ordovician boreholes from the East Baltic region and Scandinavia are extremely fossiliferous and well sampled, providing an excellent microfossil data set for evolutionary studies. In this study, we examined the relationship between habitat preference and species longevity in chitinozoans. Baltoscandian boreholes span three confacies belts, the Scanian (slope, black shale), Central Baltoscandian (outer shelf, argillaceous limestones), and North Estonian (carbonate platform) belts. We first used chitinozoan distribution patterns across the 3 confacies belts to develop a model of chitinozoan paleoecology. We found that chitinozoan biotopes reflect onshore/offshore control, as opposed to depth stratification. Species were grouped into three biotopes, generalist (occurring in all three confacies belts), platform to outer shelf (occurring only in the North Estonian and Central Baltoscandian confacies), and platform restricted (occurring only in the North Estonian Platform). We then used the quantitative stratigraphic correlation program CONOP9 to construct a Middle and Upper Ordovician composite range chart from the stratigraphic range data of 132 chitinozoan species from 27 boreholes in Estonia, Poland, Latvia, and Sweden. We converted the CONOP composite into a timescale using chronometric ages for chitinozoan biozone boundaries from Webby (2004). We used this timescale to calculate individual taxon durations in millions of years in order to test the hypothesis that the different biotopes would have different average species longevities. Generalist species, occurring in all confacies belts, had an average longevity of 7.56 million years, species restricted to platform and outer shelf environments had an average longevity of 2.96 million years, and species restricted to the North Estonian platform had durations of 1.73 million years. The mean longevities of members of these biotopes were all significantly different from each other ( $p < .05$ ).

### **An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"**

**STUDENTS** Alysa Birdsall, Alexa M Coughlin, Jonathon Michael Deeter, Tanner G Hess, Dillon P Joyce, Alexander J Kuszmaul, Joshua Latham, Elliott M Mazur, Mark S Pleasants, Sarah L Vaughn, Jordan Taylor Watson, Andrew T Wright, Steven M Yoss

**ADVISORS** Daniel Goldman, Umesh K Haritashya, Allen J McGrew

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Geology, Poster - Course Project, 13 SP GEO 404 P1

During the new 2012/2013 Intersession term Geology students and faculty from the University of Dayton and Nanjing University (People's Republic of China) collaborated in a geological field course in New Zealand. Working with Drs. Daniel Goldman, Allen McGrew, and Wang Bo, thirteen UD geology students and nine NJU students worked together over a two week period examining and mapping volcanic and sedimentary rocks. The two geology classes and their instructors brought different skills to the collaboration - the University of Dayton group was more familiar with volcanic rocks and also helped the Chinese students with their English language skills, whereas the Nanjing University group consisted of upper division students (Seniors) who had more geological experience. The combined UD/NJU Geology class spent a week mapping volcanic landforms in the beautiful Tongoriro National Park and a week studying sedimentary rocks, sequence stratigraphy, and coastal landforms along the spectacular

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shoreline at Cape Kidnappers. The combined field class was a huge success with faculty and students working successfully together and forming lasting friendships. The two weeks culminated with a wonderful Chinese dinner and final student presentations in Napier, New Zealand. This initial experience has led to an invitation from Nanjing University to bring UD students to Nanjing for a combined field course in China. This should be another excellent opportunity to foster greater scientific, international, and intercultural learning in our students.

### **Investigation of the Geological World Through Natural Disasters**

**STUDENTS** Molly T Browning, Samantha L Hortsman

**ADVISORS** Katherine Rose Schoenenberger

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Geology, Poster - Course Project, 13 SP GEO 116L 01

As future high school educators, it is crucial to have practice in lesson planning. As future high school science teachers, it is our job to understand and be able to relay scientific facts to our students. For our project, this group has decided to dive into both of these areas and to research, plan, and construct a usable lesson plan for a geology lab course in the future. With help from our advisor, we constructed a lesson on natural disasters. Using our background knowledge along with extra research we constructed a lesson that not only informs, but allows for some interaction with natural disasters. The lesson will take an hour and thirty minutes to complete, with an extra half an hour just in case. At the end of the lab students will be graded on their work. The goal of this lesson is to involve students at an interactive level to what actually occurs during a natural disaster in a geologic mind set.

### **Music Technology in Secondary Music Education: Reaching the 80%**

**STUDENTS** Natalie N Erdy

**ADVISORS** Linda A Hartley

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Music, Poster - Independent Research

The majority of United States school music programs engage nearly every student in the elementary grades. In the secondary schools, however, they tend to become too overly specialized and exclusive. With band, choir, and orchestra often the only options for music participation in secondary schools, this leads to only a small percentage of the student population involved in music education. Courses in music technology are hands-on and relevant to the current student population. These courses can help increase the percentage of 'non-traditional' music students involved in creating music while fulfilling the National Standards for music education. Music technology is also unique because even students with special needs can be involved. This poster presentation will take a look at the music programs of schools in the Dayton area and what they have to offer for non-traditional music students, as well as examining the benefits of such programs

### **Eating Disorder Diagnoses and Treatments: The Impact of an Educational Symposium**

**STUDENTS** Hannah Jessica Lowe, Meredith N. Schlabig

**ADVISORS** Susan C Gardstrom

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Music, Poster - Independent Research

The purpose of this study was to assess the impact of "Eating Disorder Diagnoses and Treatments: An Educational Symposium," a one-day event that was held at the University of Dayton on November 3, 2012. The goals of this symposium were to increase the attendees' knowledge about eating disorders and to improve their attitudes toward individuals with these disorders. The symposium was composed of presentations by health and mental healthcare professionals who shared research, statistics, case studies, and anecdotes and artifacts from their clinical experience. Speakers included a Psychologist, a Board-Certified Music Therapist, a Licensed Registered Dietitian, and a Registered and Board-Certified Art Therapist. In addition, a UD Music Therapy major shared personal testimony related to her own experiences of battling an eating disorder. Symposium attendees were invited to voluntarily and anonymously complete a 5-question survey that assessed knowledge and attitudes related to eating disorders and their treatments. Participants completed the survey both prior to and after attending symposium sessions. Five 5-point Likert scales captured attendees' 1) knowledge about diagnoses, 2) knowledge about treatment, and the degree to which they were 3) judgmental, 4) concerned, and 5) sympathetic toward individuals with eating disorders. Survey results indicate an encouraging trend: In general, respondents--even those who attended only a portion of the symposium--reported increases in knowledge about eating disorders and positive changes in

attitudes toward those affected by these disorders. Specific results will be presented, along with plausible interpretations of findings, study limitations, and suggestions for future research pertaining to eating disorders.

## Research on Conflict in Darfur

**STUDENTS** Kelcey Elizabeth Batzer, Lane R Gibson, Teresa Gratacos Alfageme, Alexandra V. Luna, Lucia Mosquera, Madeleine J Mullee, Kathryn R Shockey, Sarah E Spech, Steven J Stefani, Michael R Woomer

**ADVISORS** Alexandra Budabin

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 06

These posters will illustrate research on the conflict in Darfur.

## Human Trafficking in the United States

**STUDENTS** Scott Fogel, Luis A Pedreira Tome

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

Human Trafficking is a crime against humanity and it is taking place right here in the United States in addition to all over the world. In short, Human Trafficking is the use of people for commercial labor or sexual exploitation against their will. It is extremely profitable and has a low risk of arrest and conviction for traffickers. Men and women, boys and girls, are bought and sold across the U.S. to fill an increasing demand for sex and labor. Some are migrants who came in search of a better life, and got trapped into a vicious cycle of being sold for profit while others are U.S. citizens who are trafficked out of their own home. This poster seeks to educate people about what Human Trafficking is, how it happens, and what they can do to stop it. It also displays narratives of the victims of Human Trafficking.

## Modern Day Slavery: A Contrast Between Historical Thoughts of Slavery and the Modern Reality

**STUDENTS** Philip C Interlichia, Wendy Onofre

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

The nature of modern day slavery has changed drastically from the popular historical idea of large plantations and ships full of chained humans. Although modern day slavery is no less terrible than slavery in history books, facets of slavery and human trafficking have changed. In order to bring a stop to modern slavery we must be educated in what slavery and Human Trafficking look like today.

## Corruption in Southeast Asia: An Analysis of Contributing Factors

**STUDENTS** Margaret A Thomas

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 12 FA POL 300 04

What factors affect corruption in Southeast Asia? This paper examines the relationship between Corruption Perception Index scores and a variety of social and political factors from 2002 to present in the eleven countries of Southeast Asia. Factors to be examined include: population characteristics, regime types, economic indicators, government policies, religion, culture, and history.

## Slavery: How the Chains Remain Attached Today

*\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Anthony Dibucci, Nathan R Vicar

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 01

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Most people believe that slavery in the United States ended on January 1, 1863 when President Abraham Lincoln issued the Emancipation Proclamation. However, in reality there are over 27 million humans enslaved throughout the world today. People may find this statistic hard to believe. This is due to the fact that the dilemma of human trafficking is a problem that is invisible to our society. In fact there are over 200,000 humans currently enslaved within the United States. Slaves today are forced, tricked, or threatened into situations where they work for little or no pay and are unable to leave their horrible situation. Human beings are taken advantage of for their labor and bodies to gain a profit for another person. They are subjected to horrible physical, psychological, and spiritual abuse that leaves them scarred for life, if they are even lucky enough to survive their life as a slave. This poster examines the differences between historic and modern day slavery.

### **Ohio Laws to Combat Human Trafficking: Somewhat Flawed Despite Significant Strides Made**

**STUDENTS** Braden G Ashe

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

My presentation will detail how human trafficking is prosecuted in the Buckeye State following some recently implemented legislation, namely House Bill 262 and Senate Bill 235. Along with exploring the strengths and weaknesses of each bill, my poster will explain how their implementation is a victory in the constantly-evolving fight to combat trafficking. In order to do this, my presentation will shed light on how human trafficking was prosecuted in Ohio prior to the implementation of these statewide bills. The poster will explain the ill-pragmatism of the previously held human trafficking specification and why prosecutors typically chose to avoid pursuing it. In order to drive these points home with my audience, I will also provide human trafficking statistics in the state of Ohio to contextualize the scope and magnitude of the problem that this state struggles with. While I will convey very clearly that both sets of legislation are steps forward in the fight to abolish modern day slavery, I will also explain how both bills fail to address the cultural and systemic deficiencies that create an environment for vulnerable persons to be trafficked and re-trafficked. The heaviest emphasis will be placed on the patriarchal roots of American society and the redundant provision of ensuring trafficking among other crimes in the prosecution. Finally, I will explain the reason that the 90-day abeyance option was put into place and its intentions of protecting victims from re-trafficking. However, the audience must understand that victims of forced prostitution should never be prosecuted and I will suggest more empathetic alternatives to deal with the issues facing trafficked victims.

### **Understanding The U.S. Trafficking in Persons (TIP) Report**

**STUDENTS** Hillary Fry, Andy J Kurzhals, Rachel Phillips

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 12 FA POL 300 03

The Trafficking In Persons Report (TIP Report) was created by the United States in order to rate other countries on how well they were preventing human trafficking. A three tier system was created and evaluates these countries. Tier one is the highest rating and means that that country is in compliance with all human trafficking laws. Tier two represents some work needing to be done. Tier two watch list signifies that the country has a long way to go, but should not be placed on Tier three. Tier three means that the country is far from perfect on Human Trafficking law compliance and the United States will be placing sanctions on them. This poster explains the report and offers examples.

### **The Business of Trafficking: Supply and Demand**

**STUDENTS** Quinlin Clare Kelly, Shelby R. Ryan, Madeleine L Schneider

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

Human Trafficking, also known as the modern day slave trade, has become an extremely profitable business. An estimated 27 million slaves exist in the world today. Human trafficking is an organized criminal business involving supply and demand. Actors in the process include: the slaves/victims (supply), recruiters (wholesaler), transporters and intermediaries (distributor), pimps, and agents (retailer), and "Johns" and owners (customer). This poster explains the business model of human trafficking.

## **Prosecuting Genocide: A case study of the Khmer Rouge**

**STUDENTS** James P O'Brien

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 04

During the brutal rule of the Khmer Rouge in Cambodia from 1975-1979 countless innocent civilians were killed and there was a very weak international response. After the madness, a tribunal was set up to hold those in charge accountable. This poster examines the effectiveness of these trials in comparison to other genocide trials.

## **What is the Annual US Trafficking in Persons Report?**

**STUDENTS** Joshua Gregory Bush, Joseph D Leah

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

This project is designed to help viewers get a better understanding of the United States Trafficking in Persons Report (TIP) that was put in place by the Trafficking Victims Protection Act (TVPA) in 2000. The project will explain what the TIP report's goals are, what it consists of, how countries are placed on the tier ranking system that was created, and how countries are sanctioned for their actions if guidelines are not followed. The project will also include an example of a country from each Tier ranking.

## **Human Trafficking: Where and How to buy fair trade products in Ohio.**

**STUDENTS** Shaneika Bolt

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

This poster project will define and explain human trafficking and fair trade. It will also outline how people can buy affordable fair trade products in the Ohio area.

## **What Isn't Considered in the Dressing Room: Human Rights Violations Behind the Clothing Industry.**

**STUDENTS** Samantha Marie Gorbett, Theresa Mae Schneider

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

Human trafficking, commonly in the form of labor trafficking, is considered one of the greatest human rights violations of today. With over 27 million estimated victims of human trafficking, this is a problem that cannot be ignored. Child labor and forced labor are major problems facing the apparel industry. More is being done in reducing the use of trafficked victims in the textile exportation phase of clothing production. However, the use of forced and child labor is prevalent in the production of resources, such as cotton. While some policies have been put in place to combat the abuse of labor, there is still much more to be done. The Not For Sale organization evaluates many apparel companies and promotes the necessary changes to improve the production of clothes. The companies are rated on their efforts to combat child and forced labor, their enactment of anti-trafficking policies, the traceability and transparency of their production, and the monitoring and training in regards to workers' rights. Along with the Not For Sale organization, there is also a Fair Trade Federation that has its own Code of Practice that explains how organizations translate fair trade principles into business decisions that create sustainable change. The Federation has recently revised its Code of Practice to strengthen practices for members who sell agricultural products. Few companies ensure that their factory employees are paid higher than minimum wage and many companies are not enacting their corporate social responsibility programs.

# COLLEGE OF ARTS & SCIENCES

## The Progression of Human Trafficking Laws on a National Level

**STUDENTS** Brent R Veselik

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, POSTER - COURSE PROJECT, 13 SP POL 300 03

The U.S. national system of laws for human trafficking has undergone a great metamorphosis in the recent past. This poster will explore the steps of the process to explain how the national set of laws have developed over time to create the uniform, strong code the national government has today.

## Comparing US Counter-insurgency Actions in the Philippines in 1950s and Vietnam in 1960s: Why did One Succeed and One Fail?

**STUDENTS** Robert M Emmett

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 12 FA POL 300 04

This topic is one of interest because in both the Philippines and Vietnam the United States gave assistance to the local government in fighting a communist insurgency. In addition, many of the key American counter-insurgency commanders involved in the Philippines later went on to play key roles in the counter-insurgency strategy in Vietnam. My research is going to look into the specific reasons why counter-insurgency was effective in the Philippines but later failed to be effective in Vietnam despite the similarity of the insurgencies and the same counter-insurgent command structure.

## Exposing Nike: Team Sweat

**STUDENTS** Christine D Cirillo, Lindsay M Mudd, Margaret R Wolpert

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

Team Sweat is a committed campaign of Nike consumers, investors and workers who are fighting to expose the injustices within the Nike corporation. Nike's overseas manufacturing exploits workers in sweatshops and utilizes slave labor. The sweatshop workers are paid \$1.25 per day and are subject to forced overtime, starvation wages and extreme poverty living conditions. Team Sweat is striving to create public awareness of the truth behind the Nike swoosh and are working to ensure a livable wage for all Nike workers around the world.

## Contrasting Historic and Modern Day Slavery

**STUDENTS** Timothy John Kraft

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

Slavery has been a part of almost every human civilization in world history. Historical examples date back to Egyptian cultures and Roman Cultures on up to Early America. Many believe that slavery ended with the Emancipation Proclamation but that is simply not the case. There upwards of 27 million or more people enslaved in our modern time. While there are indeed similarities to historical examples of slavery, there are actually many forms of slavery that contradict what most people are taught in their history classes. Certainly comparing plantation slavery to modern day sex slavery would be one prime example of the differences. This presentation will take examples like that and others to raise awareness of new types of slavery that exist around the globe.

## Human Trafficking and Ohio

**STUDENTS** Jonathan A Kratz, Graham Lang, Jeff T Nandor

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03



Human Trafficking is a widespread problem throughout the United States and across the globe, known by many as the modern-day slave trade. Many Americans are unaware of this issue and believe that after the Emancipation Proclamation slavery ceased to exist in the US. This, unfortunately, is not the fact, as there are more slaves today than at the height of the Atlantic Slave Trade. Along with this, Ohio specifically has become a large hub of the human trafficking process; Toledo is the fourth largest site for minor sex trafficking in the continental United States, ranking only behind Miami, Las Vegas, and Portland. Our project will examine the business of trafficking in persons in Ohio, as well as Ohio's role in international and national slave-trading. We will cover the basic processes involved in the acquisition, movement, and exploitation of slaves, as well as some current significant statistics on trafficking on local, national, and international levels.

## **Human Trafficking and Service Learning: Considering the Impact of Awareness-Raising Events on its Implementors and Audience**

**STUDENTS** Marcy A Prendergast, Concetta M Reda

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

The gross concept of human trafficking can come as serious shock to any person who is not usually exposed to the rhetoric around human rights issues. When thinking about awareness-raising, activists are challenged to create material that caters to varying levels of interest and understanding towards the issue. Given this challenge we ask: how does giving witness to awareness-raising events impact the attitude and awareness of an audience and how does the process of planning and implementing awareness-raising events impact the awareness and attitudes of implementors. This poster will answer these questions using information gained through service learning experiences, individual interviews, observation and analysis in order to help educate its audience about the effectiveness of service learning experiences and awareness-raising events when educating others on human trafficking.

## **A couple 20's for the night: an Analysis of "Renting Lacy"**

**STUDENTS** Shannon E Breslin

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

Before this spring semester, the idea of renting a little girl was incomprehensible to me. After spending weeks in POL 300 with Professor Talbott, I learned this was a common occurrence. The focus of my poster is to enlighten you to the horrors of sex trafficking with the help of Linda Smith, the author of Renting Lacy. The book is a call to action and I hope to inspire you the way Linda inspired me. She told a story of America's prostituted children. Children like our friends, younger siblings, and even us. Little girls who like to listen to Taylor Swift and still carry around a stuffed animal, little girls who are raped and paraded around to various men throughout the night. Renting Lacy has a happy and tragic ending. Although, I highly recommend reading this book, I plan to give an in depth summary and analysis of the entire book. I implore you to share your new found knowledge about the true horrors out there and join our blue heart campaign to stop putting humans up for sale.

## **PRESENTING AND HIGHLIGHTING THE STAGGERING AND SHOCKING STATISTICS OF HUMAN TRAFFICKING IN THE USA.**

**STUDENTS** Andres E Acevedo, Tarebo Kurugu, Andrew G Pecora

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

This poster will offer information on the realities of human trafficking in the USA. The most powerful state in the world has now been a dwelling place for human trafficking. Not only is it a destination country but also an increasing source and transit country where the crime flourishes. The victims are being subjected to various forms of exploitation that is considered inhuman. Human trafficking in the United States is becoming a huge problem and very few are well informed about the real situation regarding this crime. This poster will serve the purpose of increasing awareness and catch the attention of people with the hard core facts of human trafficking in the USA.

# COLLEGE OF ARTS & SCIENCES

## **The Business Side of Human Trafficking**

**STUDENTS** Ryan F Edwards, Michael Fitzgerald Russell

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

According to the United Nations there are several forms of human trafficking including sexual exploitation, forced labor or services, slavery or practices similar to slavery, and servitude or the removal of organs. Each of these types of human trafficking violations all have a business side to them. By examining the amount of money that is in the business of human trafficking will give people a better understanding about these horrible human rights violations. Also looking at the way in which these human trafficking businesses are being run will give the general public a realization about the evil behind human trafficking. Looking at these statistics and examples will make people more aware of human trafficking in general.

## **Advocacy of Greater Utilization of UNESCO World Heritage Site Benefits in Regards to Southeast Asia**

**STUDENTS** Peter S Palumbo

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 04

Despite the large number of cultural and historical sites deemed UNESCO World Heritage Sites by the United Nations Educational, Scientific, and Cultural Organization, the benefits extended to each respective site remain insubstantial. Over the past few years, warring around, near, or over sites in Africa, South America, and Southeast Asia has critically endangered and sometimes even resulted in the total or partial destruction of world heritage sites. This presentation aims not only to explore the benefits, protection, and admission processes of modern world heritage sites, but also to advocate increased protection and involvement by the United Nations in order to ensure the safety and preservation of these historically critical monuments. The long-contested Preah Vihear Temple in Southeast Asia will act as a focal point and primary case example for the presentation, especially in regards to current and historic attempts at preservation and protection by UNESCO.

## **Supply Chain Investigation of Products Manufactured by Slave Labor**

**STUDENTS** Jordan L Blake, Elizaveta Klementieva

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Political Science, Poster - Course Project, 13 SP POL 300 03

As a Service Learning Project for a Human Trafficking course, an investigation will be conducted on the supply chain of a certain product which has been linked to slave labor of human trafficked persons. By means of appropriate research methodology, we will collect and organize data into an analysis which offers explanations of how this commodity, in its processes of creation and distribution, entailed the forced/child labor of human trafficking victims. A close examination of the product's manufacturer will be provided. This will include a critique of the manufacturer's ethical conduct in relation to standing various codes and policies, regulatory oversight, transparency, employee empowerment, and slave labor response and remediation, in order to understand the complex nature of big business and its tendency to exploit those who are already disproportionately disadvantaged. In tracing back the origins of such an everyday, tangible item, we will produce a thorough report which will put the grim reality in perspective. Ultimately, we aim to raise awareness of human trafficking. Specifically, we hope for audience members to realize that forced slave labor exists all around us, and there is a necessity for consumer education.

## **Advocating for Vulnerable Children**

**STUDENTS** Elizabeth M Caraher, Mary L Mitchell, Bethany E Stanko, Jacquelyn A Tondo-Steele, Nora C Violante, Laura M Walsh

**ADVISORS** Shawn A Cassiman

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Sociology, Anthropology, and Social Work, Poster - Course Project, 13 SP SWK 325 01

Our presentation is about creating awareness of the abuse of children with disabilities. This type of abuse, especially in schools, is more common than people would expect. We discuss how children experience the effects of abuse in different areas of their everyday life. This includes bullying either by peers or teachers. We draw attention to the different kinds of abuse children with disabilities are subject to and also the methods of prevention. While children with disabilities are subject to the more obvious types of abuse such as verbal abuse, children with disabilities are also subject to emotional abuse, which is often overlooked. Teachers and other people in positions that work with children with disabilities often commit emotional abuse by ignoring the needs of special needs children. In conclusion, based upon our analysis we argue that there is a need for more support and funding so that teachers can fully address the needs of children with disabilities and help them succeed.

## After the Abuse

**STUDENTS** Alyx E Ballenger, Lauren M Clark, Margaret Q Corrigan, Tyler J Craport, Lucy M Frey, Erin B Hamlin

**ADVISORS** Shawn A Cassiman

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Sociology, Anthropology, and Social Work, Poster - Course Project, 13 SP SWK 325 01

Child abuse is a significant problem in the lives of many children today. Even after the abuse has taken place, these children have to live their lives with the long term effects that result from the abuse in which they were involved. The severity of these effects may differ depending on the type of abuse and the time span during which it occurred. Many types of child abuse are considered when looking at the long term effects for victims. For example, the long term effects of child abuse from a mother can differ from the long term effects from other abusers. Other focuses of this project will involve how long term effects of child abuse will affect future interpersonal relationships, as well as the long term effects of sexual abuse from both within and outside of the child's family. It will also focus on the positive and negative effects of the foster care system and how it can either support or fail to support children as they undergo the physical, psychological, and emotional transitions. Finally, this presentation aims to capture how the effects of child abuse in the United States parallels that of different countries, namely child soldiers in Africa. We have concluded that the long term effect of child abuse can be decreased by better training professionals and parents on the signs of child abuse to promote early detection as well as improving the supports to children in the foster care system to better serve the children's unique needs.

## What YOU can do: Human Trafficking and the impact we as students can have on this issue.

**STUDENTS** Katherine Fawcett, Catherine J Geiger, Joanne C Koehler, Kelley L Moeller, Olivia M Paxson

**ADVISORS** Shawn A Cassiman

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Sociology, Anthropology, and Social Work, Poster - Course Project, 13 SP SWK 325 01

Child Human Trafficking is an issue that effects more people in the United States than it ever has in our entire history. Between cycles of child abuse continuing and dragging new children into the business of trafficking, and the million dollar industry that comes along with selling these slaves, there doesn't seem to be an end in sight. That's where we come in. We argue that if enough people are informed about what they can do to help, then an impact, no matter how small, will be achieved. Through researching the history of human trafficking in the United States, we learned that the acquisition of children as slaves is the main problem. By creating a profile of the trafficked, the traffickers, and the consumers, we are committed to convincing society that the larger structure of human trafficking is the problem. Previously we as a society thought of prostitutes as being criminals, but now as we are restructuring how society views them, we refer to them as the victims. As Ohio employs a leader to start informational movements on trafficking, we want the importance of informing people of this issue to become a snowball effect. We want to tell you that there is something that YOU as a UD student can do.

## Child Abuse and the Internet

**STUDENTS** Clare E Gilligan, Mark D Mehall, Amanda M Pipik, Jessica K Rutkousky, Alyssa C Smith

**ADVISORS** Shawn A Cassiman

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Sociology, Anthropology, and Social Work, Poster - Course Project, 13 SP SWK 325 01

This poster presentation delves into the different aspects of child abuse, the psychological effects of child abuse and how abuse is perpetuated through the use of the internet. With the ever advancing technologies available in our society today, children are constantly being exposed to

## COLLEGE OF ARTS & SCIENCES

images and messages of a sexual content. This poses a significant problem because with the anonymity of the internet it becomes impossible to see the person behind the username. Our focus will be how both the child and the predator become involved through the internet by means of chat rooms, blogs, social media etc. We will examine the factors that lead children to participate in these internet interactions such as neglect in the home, low self-esteem and sexual exploration. We will also assess the factors that lead the predator to seek sexual relationships with children such as continuing the sexual abuse cycle and/or mental issues. By allowing children to have access to the internet, parents maybe putting their children at risk for sexual abuse. We suggest that parents restrict and monitor their children's activity on the internet. We also believe there should be stricter internet regulations countrywide in order to prevent predators from producing sexually explicit content children may potentially access.

### **The Flood in Photos**

**STUDENTS** Alexandria L Digby

**ADVISORS** Hsuan Tsen

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Visual Arts, Poster - Course Project, 13 SP VAH 490 N1

This project serves to commemorate the 100th Anniversary of the Great Dayton Flood in a photographic way. Research on the transformation of the city, most specifically the historic downtown area of Dayton since the time of the flood and photographs from William Preston Mayfield, will be presented. Photographs of locations throughout downtown Dayton that were greatly impacted by the flood will be accompanied by current information about, and photographs of, those locations today. The highlight of the poster presentation is a 'then and now' Dayton comparing the time of disorder during the flood and the order it has been restored to 100 years later. The larger project that this presentation is representative of is the comparison of the ordered and disordered states that the city has gone through since the time of the flood. Other than just visually through photographs, information on how Dayton has changed as a living and functioning city will be explored.

### **An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy**

**STUDENTS** Cory Baker, Kaitlin E Boyd, Nick T Fry, Andrew D Hentz, Benjamin R Kasper, Eileen T Klug, Elizabeth A Morrison, Flor J Ortega, Sarah Reynolds, Michael J Ryan, Brittney Nicole Sanders, Rebecca E Scheid, Jill M Smith, Anthony M Trifletti, Rebecca E Welch

**ADVISORS** David W Darrow, Angela Ann Zukowski

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Poster - Course Project, 13 SP ASI 357 P1

The Chaminade Scholar Exhibit is an integrated visual, audio and interactive experience sparking ones imagination for experiencing the wonder and beauty of Assisi and Rome, Italy. The exhibit represents elements of the Vocation and Arts class that explored art, culture and spirituality for deepening students appreciation for embracing ones vocation in life. The exhibit is a preliminary preparation for an immersion experience in Italy in May.

### **An Exploration of the Understanding of Rap and Hip-Hop Among University of Dayton Students**

**STUDENTS** Paris S Hill

**ADVISORS** Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 10:00 AM-11:00 AM

Criminal Justice Program, Presentation - Capstone Project

The aims of this project is an effort to answer the question: Do University of Dayton students associate violence with rap/hiphop lyrics? This question has been discussed at length in the music industry. Hip hop lyrics often employ strong lyrical imagery. Hip hop lyrics often include references to certain images of women, drugs and violence. For example, the rap group NWA was controversial from the beginning of their career because of their critique of American society. The members of NWA rapped about topics that were seen as taboo in American society. Groups such as NWA angered the Los Angeles Police department (LAPD) which led to the LAPD suggesting that their songs were promoting violence. This project will examine the interpretations of these lyrics through surveys with University of Dayton students and interviews with local musicians.

## **Cadets and the Campus Community: The Impact of ROTC on Students at the University of Dayton.**

**STUDENTS** Cody R Kehres

**ADVISORS** Jefferson L Ingram, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 10:00 AM-11:00 AM

Criminal Justice Program, Presentation - Capstone Project

Among the topics captivating the attention of people in the United States is the country's involvement in foreign conflicts. These conflicts provoke a variety of opinions and emotions within the society about the military. The presence of Reserve Officers' Training Corps (ROTC) programs on college campuses, such as the University of Dayton, may shape the views of these students on the military and, thus, impact the societal relations between the military and the citizens in the United States. This research will examine the impact that ROTC cadets at the University of Dayton might have on shaping the views of the students on the military. This research will potentially impact the relations between the cadets and students on campus.

## **Is the Juice Worth the Squeeze: The Sociological Implications of Steroid Use in Major League Baseball**

**STUDENTS** Nicholas P Sholtis

**ADVISORS** Jefferson L Ingram, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 10:00 AM-11:00 AM

Criminal Justice Program, Presentation - Capstone Project

Throughout the history of baseball, there have been many different eras, none as dark and infamous as the "Steroid Era" of the 1990s and 2000s. This project analyzes the use of steroids in Major League Baseball (MLB). This study aims to advance the understanding of the reason(s) players have so rampantly used steroids, how this phenomenon has affected the public's view of the MLB, and what has been done to eradicate the use of steroids in the MLB. This study applies containment theory to explain the larger sociological implications of this problem in sport as well as how this problem connects to administrative policy of MLB.

## **Bringing Our Rivers to the Community: The RiverMobile**

**STUDENTS** Bethany A. Renner

**ADVISORS** Leslie W King

**LOCATION, TIME** C Lot, 10:00 AM-12:00 PM

Fitz Center for Leadership in Community, Presentation - Independent Research

The University of Dayton's Rivers Institute now shares its excitement of our rivers with the help of a 53-foot tractor trailer called, the RiverMobile. This mobile learning studio will travel to schools and communities throughout the Great Miami River Watershed. The RiverMobile houses five spaces, called classrooms, that will be used to facilitate experiential education. Although the curriculum will be geared towards students in grades six through eight, it is relevant to learners of all ages. River Stewards will be leading tours through the RiverMobile at this year's Stander Symposium. River Stewards will also be able to describe the student-centered development of our educational outreach programs and continued work on this and many other projects. See the Rivers Institute's website for more information: <http://rivers.udayton.edu/Rivermobile.html>

## **Diversity and Campus Climate: A Closer Look at UD**

**STUDENTS** Frederick L. Cox, Kaylyn E Drodge, Amy E Fox, Erin L Gahimer, Amy M Keckler, Amberly J Maston, Lauren E Porter, Khristian Alejandro Santiago

**ADVISORS** Leslie H Picca, Ruth Thompson-Miller

**LOCATION, TIME** St. Joseph's Hall 025, 10:30 AM-11:30 AM

Sociology, Anthropology, and Social Work, Presentation - Independent Research

A panel of eight students who attended the White Privilege Conference in Seattle, Washington with Sociology Professors Dr. Thompson-Miller and Dr. Picca will discuss what they learned at the conference. The conference challenges concepts of privilege and oppression, and offers solutions and team building strategies to work toward a more equitable world. WPC provides a comprehensive look at issues of privilege including race, gender, sexuality, social class, disability, religion, etc., and the ways in with we all are affected by that privilege. The philosophy at WPC is 'understanding,

## COLLEGE OF ARTS & SCIENCES

respecting and connecting'; this philosophy echoes the Catholic Marianist traditions at the University of Dayton, particularly with an emphasis on social justice. It is our goal to take the skills and knowledge gained at WPC, and apply it to the University of Dayton campus climate, with an emphasis on actionable skills that can be implemented to see a positive change on campus. Come join us for what should be a lively discussion!

### Music Documentary Projects

**STUDENTS** Lauren E Banfield, Carla J Becker, Christopher P Bendel, Paige Nicole Borek, Daniel N Buerkle, Craig A Carden, Donna M Cox, Jacob M DeBellis, Joseph S Depeder, Emily A Gardner, Sara B Hamilton, Kameron T Hayes, Emily D Irwin, Anne Marie M Kelsey, Katya Al

**ADVISORS** Donna M Cox

**LOCATION, TIME** LTC Forum, 10:30 AM-12:00 PM

Music, Presentation - Course Project, 13 SP MUS 203 H1

In this session student collaborators will present music documentaries which they researched and created. Participants will have

### String Chamber Music

**STUDENTS** Vicki Lynn Bentley, Michael D Cerrone, Michelle Connor, Joshua R Forman, Emily D Gatlin, Theodore F Lannert, Dorothy P MacKey, Evan M McCreary, Connor R Mcmonagle, Brendan Daniel Michaelis, Kelsey A Mills, Peter N Mills, Sarah T Petrocci, Sophia D Raptis,

**ADVISORS** Kara Lardinois, Phillip C Magnuson, James R McCutcheon, Shelbi J Wagner

**LOCATION, TIME** Sears Recital Hall, 11:00 AM-12:00 PM

Music, Presentation - Course Project, 13 SP MUS 390 10

Student musicians in strings (violin, viola, cello, bass, and guitar) will present a program of string chamber music.

### Racism & Law Enforcement

**STUDENTS** Ryan Sheehan

**ADVISORS** Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 11:00 AM-12:00 PM

Criminal Justice Program, Presentation - Capstone Project

In modern society, racism is considered an ugly practice of our country's past. The truth, however, is that racism is still prevalent in American society today. What has changed is the face of racism. We consider racism to be the actions of Skinheads or members of the Ku Klux Klan spewing hate at minorities. The truth is that we do not need people like this for racism to still exist in American society. Racism today exists in forms of hidden and institutional racism and those in law enforcement are not immune. This presentation will concentrate on the findings of a research project that examines the experiences of law enforcement and their interactions with minority members of the community. This research addresses the question of whether racism affects arrest rates and procedures of law enforcement.

### Breaking the Barriers: How does crime effect the trajectory of first generation college students?

**STUDENTS** Precious L. Billingsley

**ADVISORS** Arthur J Jipson, Laura M Leming

**LOCATION, TIME** St. Joseph's Hall 013, 11:00 AM-12:00 PM

Criminal Justice Program, Presentation - Capstone Project

What is a first generation college student? Scholars who have done previous research on this topic contend that a first generation college student is a student whose parents does not have a college degree. There are different interpretations of being a first generation college student. There are many barriers that they have to overcome. How does crime affect the success rate for first generation college students? This research examines specific barriers that some first generation college students face: the impact of crime in neighborhood, family obligations or difficult relationships with peers. This perception of crime can also create other barriers for first generation college students. First generation college students are generally associated with having a low socioeconomic status, which then is usually connected to belonging to neighborhoods with higher crime rates. The goal of this research is to capture how crime and other social barriers have caused these students to either excel or to give up. In depth

interviews and narrative analysis will be used in this project to measure the hardships and emotions of the journey of first generation college students and understand the barriers that they faced.

## **Private versus Public: An examination of the Juvenile Justice System.**

**STUDENTS** Justin E Backscheider

**ADVISORS** Arthur J Jipson, Ruth Thompson-Miller

**LOCATION, TIME** St. Joseph's Hall 013, 11:00 AM-12:00 PM

Criminal Justice Program, Presentation - Capstone Project

This research project is an examination of private and public juvenile justice facilities. The researcher will focus on the private juvenile facilities over that of the public facilities. The questions of why and how private facilities came about will be examined. The researcher will answer these questions by utilizing secondary research and conducting interviews with field experts. Moreover, the listener should have a clear understanding of the role private and public juvenile facilities play in the criminal justice field.

## **Drosophila eye model to identify genetic modifiers of amyloid beta 42 (A'42) mediated neurodegeneration**

**STUDENTS** Michael T Moran

**ADVISORS** Amit Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

The neurodegeneration that results from Alzheimer's disease (AD) is caused by the improper cleavage of APP to form the polypeptide amyloid beta 42 (A'42). Being hydrophobic, amyloid beta 42 (A'42) clumps together forming plaques which in turn accumulate around the neurons of the brain causing many cellular disturbances and, eventually, neuronal death. The characteristically slow degeneration of neurons in AD has been accredited to this accumulation of amyloid beta 42 in the brain. However, the exact mechanisms of how and why this accumulation happens are not yet fully understood. Using the A'42 misexpression model where we misexpress A'42 in the differentiating neurons of the eye using GMR-Gal4 driver, we carried out a screen to look for downstream modifiers of neurodegenerative phenotype of A'42 accumulation. Here we present the results of the screen and further characterization of genetic interactions of two genetic modifiers and their role in A'42 mediated neurodegeneration in the *Drosophila* eye.

## **Role of Transcriptional Co activator CREB Binding Protein in Amyloid Beta-42 mediated neurodegeneration**

**STUDENTS** Greg F Mancini

**ADVISORS** Amit Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

Alzheimer's disease (hereafter AD), a common progressive neurodegenerative disorder in the aging population, has no early detection tests or proper cure. AD results in gradual decline of cognitive functions of learning and memory due to neurodegeneration in central and peripheral nervous system. My project focuses on understanding role of transcriptional co-activator CREB binding protein (hereafter, CBP) in preventing neurodegeneration caused by A'42 plaques in the *Drosophila* eye. CBP binds a variety of transcription factors and components of several signal transduction pathways. It has been observed in high throughput approaches that CBP levels are reduced in cells undergoing cell death due to stress. Therefore, we propose to test if CBP can serve as a neuroprotective agent, and can prevent neurodegeneration seen in AD using *Drosophila* eye model. In order to test this neuroprotective function further, the different domains found on the full length CBP have been isolated in order to test which ones provide neuroprotective or neurodegenerative effects. In order to study this interaction, the *Drosophila melanogaster*, the common fruit fly, genetic model is utilized to drive the experiment. Flies containing the isolated CBP domains have been crossed with flies containing the over expression of the Amyloid-'42 protein to test the proteins interaction. Preliminary results have shown that certain domains have promoted neuroprotection, while others have been shown to promote neurodegeneration. More tests are currently being done to provide definitive evidence. This evidence will help to support the current results, which will then help us to understand the role of CBP in AD.

## COLLEGE OF ARTS & SCIENCES

### **Membrane trafficking of aquaglyceroporin HC-3 in erythrocytes from the freeze tolerant anuran, Cope's gray treefrog, *Hyla chrysoscelis***

**STUDENTS** Elizabeth C Wetzel

**ADVISORS** Carissa M Krane

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

Cope's gray treefrog, *Hyla chrysoscelis* is a freeze-tolerant anuran which accumulates and distributes glycerol during cold-acclimation. Glycerol serves as a cryoprotectant to minimize cellular water loss and control ice crystal formation during freezing. Glycerol accumulation is facilitated by membrane proteins called aquaglyceroporins (GLPs). We hypothesize that HC-3, an ortholog of mammalian aquaporin 3, functions as an aquaglyceroporin to facilitate transmembrane flux of water and glycerol in *Hyla chrysoscelis*. Previous studies have shown that HC-3 protein is in higher abundance and is preferentially localized to the plasma membrane in red blood cells from cold-acclimated treefrogs as compared to warm-acclimated animals. The objective of this study is to determine the signal for HC-3 membrane translocation that occurs during the cold-acclimation period. We hypothesize that cAMP, vasotocin, and/or epinephrine participate in cell signaling pathways that result in HC-3 membrane trafficking. Erythrocytes from *H. chrysoscelis* were cultured for 48 hours in complete cell culture media (CCCM) or CCCM containing glycerol. After 48 hours, cultured erythrocytes were exposed to cAMP (1  $\mu$ M; 30 minutes), vasopressin (10 IU; 30 minutes), or epinephrine (1  $\mu$ M; 60 minutes), isolated from the culture media, and fixed on microscope slides. Fluorescent immunocytochemistry showed enhanced HC-3 membrane localization in cells exposed to epinephrine and cAMP as compared to controls. These data indicate HC-3 translocation and membrane localization is enhanced in a cAMP-dependent pathway. This research was supported by NSF Research Grant IOS-1121457 and the University of Dayton Honors Program.

### **Assessing the Effect of Shear Stress on AQP1 Expression in Vascular Endothelial Cells in vitro.**

**STUDENTS** Kyle P McGrail, Mollie M Walton

**ADVISORS** Carissa M Krane

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

Vascular endothelial cells undergo physical modifications in response to changes in their environment. The purpose of this study is to assess Aquaporin 1 (AQP1) expression in endothelial cells in response to changing shear stress levels. It is standard practice to use an internal mammary artery (IMA) or a human saphenous vein (HSV) as a bypass graft for a patient afflicted with coronary artery disease. The patency rate of the HSV is less than that of the IMA due to the onset of intimal hyperplasia, which eventually results in the cessation of blood flow. Intimal hyperplasia is triggered by the changes in environmental conditions that the graft experiences. These include variation in blood flow rate, shear stress level and oxygen tension. AQP1 is normally expressed in the membranes of vascular endothelial cells. HSV grafts that have succumbed to intimal hyperplasia show increased AQP1 expression. We hypothesize that the AQP1 abundance found in the endothelial cells of HSV grafts can be attributed to the experienced increase in shear stress, making AQP1 a likely sensor in the response to environmental change. Our aim is to assess the effects of shear stress on AQP1 expression in vascular endothelial cells in vitro. Primary cultures of arterial and venous endothelial cells will be seeded into a flow chamber, and then subjected to the equivalent of arterial or venous flow rate and shear stress. Following, the cells will be examined for morphological changes and AQP1 expression using phase contrast microscopy and immunocytochemistry (ICC). We anticipate that the results of this study will provide additional insight into the physiology of HSV graft failure, as well as direction for further preventative experimentation.

### **Analyzing Osmotically-Induced Cell Shape Changes in Erythrocytes from the Freeze Tolerant Anuran Cope's Gray Tree Frog, *Hyla chrysoscelis***

**STUDENTS** Mark A Hawk

**ADVISORS** Carissa M Krane, Philip Nickell

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

Freeze tolerant Cope's gray treefrog, *Hyla chrysoscelis*, accumulates glycerol during a process of cold-acclimation in anticipation of freezing. Glycerol acts as a cryoprotectant to control osmotic gradients formed by extracellular ice crystal formation during freezing. HC-3 is abundantly expressed in the membrane of red blood cells from *H. chrysoscelis*, where it is thought to facilitate osmotically driven transmembrane water flux



as well as glycerol diffusion, both important in freeze tolerance. We hypothesize that reduced expression of HC-3, a protein channel that facilitates transmembrane water and glycerol flux, will result in decreased osmotically-induced cell shape changes in red blood cells. In this study, *H. chrysoscelis* erythrocytes were cultured in complete cell media. HC-3 protein expression was reduced using an HC-3 morpholino, an anti-sense oligonucleotide that binds to the HC-3 mRNA to inhibit translation. Red blood cells with and without HC-3 morpholino treatment were subjected to hypotonic shock in a 70-mOsm solution. Changes in cell morphology (length and width) induced by the hypotonic shock were measured using ImageJ software. The results of this experiment will help to discern the role of HC3 in mediating transmembrane water flux necessary for freeze tolerance.

### **Assessment of Strains of Thermophilic Algae for Summer Growth**

**STUDENTS** Lawrence J Saliba

**ADVISORS** Jerome C Servaites

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Course Project, 12 FA BIO 421 P1

**Introduction:** Diminishing fossil fuel supplies will require the development of alternative fuels from biomass, including algae. As seasonal temperatures become more extreme because of climate change, it is necessary to select for algae having the ability to maintain optimal growth rates at extreme temperatures. Most green algae are mesophilic and exhibit optimal growth rates between 25 and 30 °C. *Chlorella sorokiniana* strains have shown optimal growth rates at higher temperatures (35 and 40°C), making them advantageous for outdoor summer growth. **Methods:** Three strains of *Chlorella* (*C. vulgaris* and two *C. sorokiniana*) were grown at 20, 25, 30, 35, and 40°C in a temperature-controlled water bath at both high CO<sub>2</sub> (10% CO<sub>2</sub>) and air (0.04% CO<sub>2</sub>) and continuous light (100<sup>μ</sup>moles m<sup>-2</sup> s<sup>-1</sup>). Growth was measured every 24 hours. After the exponential phase of growth, the replications were terminated and the biomass frozen for determination of lipid, starch, and protein amounts present in the cells. **Results:** As expected, *C. sorokiniana* exhibited higher growth rates at higher temperatures than *C. vulgaris*. Under both air and 10% CO<sub>2</sub> enrichment, *C. vulgaris* doubled at a rate of between 1 to 1.5 times per day at all temperatures tested. The *C. sorokiniana* species had highest doubling rates (4 times/day) at 35°C, but at 20°C showed little growth. **Conclusions:** From these results, we conclude the *C. sorokiniana* is a true thermophile, requiring high temperature for growth. In a temperate climate range, it appears unlikely that one algal species could grow equally well throughout all seasons of the year. Hence, the best alternative to maintain year round growth would be to grow mixed cultures of psychrophilic, mesophilic, and thermophilic algal species.

### **Temporal Analysis of Behavior of Male and Female *Lucilia sericata* Blow Flies Using Videography**

**STUDENTS** Allissa M Blystone, Brian W Skura, Casey T Walk

**ADVISORS** Karolyn M Hansen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

*Lucilia sericata*, the green bottle fly, is a forensically important insect species used in determination of the post-mortem interval (PMI) for deceased individuals. Anecdotal evidence indicates that females and males may utilize the decaying organic material differently. Reports suggest that females utilize the organic material as a food and egg-laying resource while males are present on the periphery of the site rather than on the organic material. In the present study we hypothesize that *L. sericata* males and females behave differently with respect to organic material resource utilization. Protein (organic material) is a required dietary component for female flies for completion of sexual development, vitellogenesis, and the production of sex pheromones while a dietary protein requirement for males has not been elucidated. Flies were maintained in mixed colonies (both males and females present) and colonies were monitored over 24 hour cycles using a Sony Handycam video recorder with night-vision capabilities. Preliminary data reveal that *L. sericata*, regardless of sex, are inactive during the dark (night) cycle. Females visited the protein source more frequently than males during the light (day) cycle. These results suggest that *L. sericata* exhibits sexually dimorphic behavior during the daylight hours with respect to protein utilization.

## **A Comparison of Common Diets for the Laboratory Culture of the Green Bottle Fly, *Lucilia sericata***

**STUDENTS** Allissa M Blystone, Mark A Hawk, Alexandra E Jacob, Clare A Kelly, David Barry Foraker Kling, John M Riordan

**ADVISORS** Karolyn M Hansen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

Blow flies from the family Calliphoridae, specifically *Lucilia sericata*, are important for both forensic science and medicinal applications. They serve as agents for post-mortem interval (PMI) estimation in forensics, and are used for maggot debridement therapy (MDT) in medicine. Forensic entomologists currently use several different methods for culture of organisms in laboratory settings. A common streamlined laboratory culture protocol for *L. sericata* would provide the entomology community a common basis for comparison of studies involving genetics, PMI estimation, and organism culture for medical uses. This study compares and reviews several common, simple diets and the effects of each diet on the survivorship and fecundity of *L. sericata*. The flies were cultured at 26 degrees Celsius, 30-40% humidity, on a 12 hour light/dark cycle, and fed one of nine diets. Analyses of the data revealed that the life span of the flies was extended, and a greater number of eggs per oviposition event were produced by females, when the organisms were fed a diet of honey water and bovine liver. We propose the use of this two-part diet as an optimal diet for laboratory culture of *L. sericata*.

## **Ovary Staging Analysis of the Female Adult Blow Fly, *Lucilia sericata***

**STUDENTS** Allissa M Blystone, Clare A Kelly, Timothy J Lee, Connor Ratycz

**ADVISORS** Karolyn M Hansen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

The green bottle fly, *Lucilia sericata*, is a forensically important organism for the determination of post-mortem interval (PMI) of deceased individuals. *Lucilia sericata* plays an important role in the initiation and subsequent pattern of insect colonization, as well as species progression on decomposing organic matter since it is one of the primary colonizers. Adult female *L. sericata* are attracted to decaying organic material to fulfill a physiological need for a protein meal. Protein is required for completion of sexual development, vitellogenesis (egg production), and production of sex pheromones. Much is known regarding the life cycle of the species, however, the effects of diet quality and timing on ovary and egg development is not well understood. We hypothesize that the production of eggs, and thus ovary development in female *Lucilia sericata*, occurs four to five days after the initial consumption of a protein meal. Adult flies were separated into two groups: Group #1 included both males and females (1:1 ratio), and Group #2 included only females. Three females from Group #1 and Group #2 were removed at twelve hour intervals each day and preserved for dissection. Ovaries were staged using two methods. The first staged the organs using a more common 0-3 scale where 0=no egg development, and 3=full egg development. The second method staged the ovaries using length and width measurements to calculate the area. Data were averaged for each time point. Preliminary results indicate that ovaries begin to develop between three to five days post-eclosion with the immediate introduction of a protein source, while full ovarian development occurred in the subsequent 24-36 hours.

## **Fabrication of Low-Cost Flow Cell and Tapered Optical Fibers for Aqueous Biosensing**

**STUDENTS** Marika S Edwards, Dillon T Grandinette, Branden J. King, Jonathan B Melendez

**ADVISORS** Karolyn M Hansen, Peter E Powers

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

This study focuses on the engineering and design of a biconic, tapered optical fiber platform for biosensing applications. The sensor platform consists of a machined polytetrafluoroethylene (Teflon, PTFE) flow cell which is chemically inert, easily machined, and available at low-cost. The flow cell was designed to withstand temperatures of 0 to 60 degrees Celsius, to protect the fragile, tapered fiber, and connected to a syringe pump to allow for the introduction of aqueous solutions for surface chemistry functionalization and analyte exposures. The flow system was used to characterize individual single-mode or polarization-maintaining fibers that were tapered to a waist diameter of approximately 10 microns. Signal was measured as the amount of light transmission through the tapered fibers. Preliminary results obtained for antibody-antigen interactions

indicate that molecular interaction of the antigen with the surface-tethered antibody results in a change in the quantity and phase of light passing through the tapered fiber.

### **Investigation of the Genetic Interactions between Hippo Signaling Pathway and Drosophila C-terminal Src Kinase (d-csk)**

**STUDENTS** Hailey Kwon

**ADVISORS** Madhuri Kango-Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

Hippo signaling pathway regulates organ size by inhibiting cell proliferation and promoting apoptosis. Hippo pathway is implicated in diseases including a wide variety of cancers. A core component of this pathway is a kinase cascade of Hippo (Hpo) and Warts (Wts; also called Lats) that suppresses tumor growth by negatively regulating Yorkie (Yki), a transcriptional co-activator. The Drosophila C-terminal Src Kinase (d-csk) is an identified genetic modifier of Wts, and interacts with the Src oncogene. Reduction in d-csk expression and the consequent activation of Src are frequently seen in hepatocellular and colorectal tumors. Previous studies have shown that d-csk regulates cell proliferation and tissue size during development. Given the similarity in the loss of function phenotype of d-csk and wts, we have investigated the genetic interactions of d-csk with Hippo pathway. Our preliminary data suggest that d-csk acts upstream of or parallel to hpo within the pathway. We will expand our investigation to test the following hypotheses: (1) d-csk regulates the expression of the transcriptional target genes of Hippo signaling, including *ex-lacZ*, *fj-lacZ*, *dronc1.7kb-lacZ*, and *diap1-4.3GFP*; (2) using genetic epistasis, test whether d-csk interacts with other components of Hippo pathway, specifically *yki*, *wts*, *sav*, *D*, *zyx*, and *ex*. These studies are expected to establish a new hierarchy of gene interaction within Hippo pathway. Considering the conservation of genes and cell biological processes between flies and humans, the outcomes of our investigation can then be extrapolated to mammalian csk-mediated regulation of tissue size and its implications in diseases such as cancer.

### **Scribble acts in the Drosophila Fat-Hippo pathway to regulate Warts activity**

**STUDENTS** Hailey Kwon, Shilpi Verghese, Indrayani Waghmare

**ADVISORS** Madhuri Kango-Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

Hippo pathway regulates organ size from flies to mammals through the transcriptional co-activator Yorkie (Yki). The pathway controls gene expression and growth regulation by controlling the nuclear availability of Yki by several alternate mechanisms (e.g., sequestration of Yki in the cytoplasm by Warts (Wts) phosphorylation following hyper-activation, or by binding of Expanded (Ex) and Yki resulting in its membrane localization). Several Hippo pathway components (like, Fat (Ft) and Ex) localize to cell junctions organized by three distinct protein complexes that maintain epithelial sheet integrity and aid in signaling interactions. Amongst the junctional proteins, Crumbs (Crb), atypical Protein Kinase C (aPKC), Scribble (Scrib) and Lethal giant larvae (Lgl) are known to interact with Hippo pathway to regulate growth. However the molecular mechanisms of these interactions are largely unknown. scrib is a neoplastic tumor suppressor gene known to regulate growth and apical-basal polarity in cells. Loss of scrib causes neoplastic tumors while scrib mutant cells challenged with wild type cells get eliminated attributing differential growth properties to scrib mutant cells. Recent studies have shown that scrib interacts with the Hippo pathway and loss of scrib affects expression of Hippo target genes. Furthermore, both in flies and mammalian model systems, Scribble has been shown to act upstream or parallel of Warts and Scribble requires Yki to regulate its growth functions. However, the mechanism by which Scribble regulates growth via Hippo pathway remains unclear. Using the GAL4-UAS system and transgenic RNAi approach, we show that Scrib acts downstream of Ft. We also show that Ft requires Scrib to interact with Ex and Dachs (D), and for regulating Wts levels and stability, thus placing Scrib in the Hippo pathway network.

### **Functional and Genetic Analysis of Compensatory Responses Induced in Tumors Caused by Loss of Scribble (apical-basal polarity).**

**STUDENTS** Alyssa C Lesko, Shilpi Verghese, Indrayani Waghmare

**ADVISORS** Madhuri Kango-Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

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The Hippo pathway has recently been identified to regulate the proliferation and survival of cells. Scribble (Scrib) is a tumor suppressor gene that is involved in cell polarity. There is evidence that cell death induction in the scrib mutant cells is correlated to an increase in Jun N-terminal Kinase (JNK) signaling due to activation of cell competition. However, increased survival of scrib mutant cells leads to growth of massive tumors. One way in which dying cells stimulate proliferation is called compensatory proliferation. Many distinct compensatory mechanisms are now known that involve the action of caspases, mitogens and cell signaling pathways. My project will investigate how changes in Hippo signaling are important to cell-cell interactions regulated by scrib. Our previous work showed that JNK and Hippo pathway interact. We have also investigated the correlation of several phosphorylated proteins that belong to the JNK and Hippo pathway, to the loss of scribble in western blot experiments. It was seen that scribble mutants showed increased levels of these phosphorylated proteins compared to wild type and double mutant cells. We hypothesize that this interaction determines if tumor cells survive or are eliminated. To test this, I will look at the role of JNK when it is activated and down regulated in the Hippo pathway, as well as, its interaction with scribble. Our aims are: 1. Test to see what cell-cell interactions scrib requires to induce tumor growth, and 2. Test to see if scrib requires JNK and/or Hippo to induce tumor growth. We will also study the affect of scrib in different genetic backgrounds like minute and p35. On completion we expect to find interactions between the Hippo pathway and scrib to understand the growth of tumors caused by the loss of scrib. Our findings from these studies will be presented.

### **Genetic Interaction of Discs-large [Dlg] with Hippo Signaling Pathway**

**STUDENTS** Aidan Fenix, Austin J Roebke, Shilpi Verghese, Indrayani Waghmare

**ADVISORS** Madhuri Kango-Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

The Hippo signaling pathway is involved with growth regulation. The Hippo pathway regulates organ size through cell proliferation, and apoptosis. Hippo affects cell proliferation by regulating transcription of *cyc E*, *diap-1*, *cyc B*, *cyc D*, *cyc A*, and *myc* and apoptosis by affecting expression of bantam miRNA, *hid*, and *dronc*. The Hippo pathway exerts its effect on target genes via its transcriptional co-activator Yorkie (Yki). The Hippo pathway has been implicated in tumorigenesis. When Hippo signaling is disturbed, hyperplastic tumors have been shown to develop. This pathway is highly conserved between *Drosophila* and higher organisms. Hippo has been shown to interact with other signaling pathways to cause tumorigenesis. Dlg is involved in septate junctions and cell proliferation in *Drosophila*. Dlg is in a complex that involves Scribble (Scrib) and Lethal Giant-larvae (Lgl). When mutations in genes disrupt these complexes it results in the loss of junctions and neoplastic tumors are formed. Scrib and Lgl have been shown to interact with Hippo. Recently, we showed that Scrib is part of the Hippo pathway. The interaction of Dlg with Hippo isn't well-established. We want to find out if dlg interacts with Hippo to carry out its functions related to growth control and apoptosis. We have established a simple model where loss of dlg results in excessive growth. Using this system, we will first test this by genetic epistasis experiments with other components of the Hippo pathway to understand, for example, how the loss of Dlg affect Hippo pathway mediated functions. Secondly, we will test this through immunohistochemistry to check effect on target genes of the Hippo pathway. The significance of this project is that we will gain more knowledge of the interaction of Hippo with Dlg; moreover, shedding light on the interaction of Hippo and Dlg in the progression of tumorigenesis.

### **A Drosophila Eye Model to Study the Role of the Dorso-ventral (DV) Patterning Genes in Growth and Cancer**

**STUDENTS** Erika L Wittkorn

**ADVISORS** Madhuri Kango-Singh, Amit Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

The *Drosophila melanogaster* eye has been used as a model to study axial patterning and growth. In all multi-cellular organisms, axial patterning serves as a fundamental process of growth and patterning to generate Antero-posterior (AP), Dorso-ventral (DV), and proximo-distal (PD) axes during organogenesis. Axial patterning is required for transition of a monolayer organ primordium to a three-dimensional highly organized organ. In the *Drosophila* eye, DV axis is the first lineage restriction event. Mutations of DV pathway members exhibit growth pattern defects. Here we employ *Drosophila* eye model to discern the role of DV patterning genes in growth and development of the eye as an organ. Loss of L/Ser in the *Drosophila* eye disc, caused complete loss of eye development, thereby suggesting that L/Ser plays a role in the proliferation, cell fate specification, differentiation or survival of cells in the developing eye. We will test if the loss of the eye field in the L/Ser mutant is due to growth regulation.

Previously, in a genetic screen for L/Ser interactors, we identified Warts, Hippo and Salvador, the members of the Hippo organ growth control pathway. Here we present the results from our study on (a) the interactions of L/Ser with members of the Hippo pathway. The results from these studies will be presented. These studies will set up the stage for the future directions of our research to gain novel insights into regulation of the DV pathway, and how cell proliferation or survival is controlled during development.

## **Outfall water quality assessments of the major rivers of Dayton, Ohio**

**STUDENTS** Kaitlin L Fochesato, Will P Kmetz, Lauren E Shewhart, Alexandra Nicole Wright

**ADVISORS** Mark E Benbow

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

This study was conducted to evaluate the water quality conditions of the Great Miami River associated with the City of Dayton Municipal Separate Stom Sewer System (MS4) outfalls. The goal of this study was to see whether the requirements of the Ohio Environmental Protection Agency (EPA) and the National Pollutant Discharge Elimination System (NPDES) were met by the city of Dayton. The study was conducted over a three year period in which the water quality assessment methods were changed each year as well as the sampling locations. Once the three year period had concluded water quality testing had been done using metric methods associated with the physical water chemistry, nutrient load, turbidity and total suspended solids, lab acute toxicity assays and aquatic life assessment. The acute toxicity assays of *Daphnia magna* revealed low mortality in 2010 and 2012 and high mortality in 2011. There was a correlation between the survivorship of *Daphnia magna* and the water quality in the city of Dayton.

## **Using Epinecrotic Biofilms for Applications in Forensic Science**

**STUDENTS** Will P Kmetz, Jennifer M Lang

**ADVISORS** Mark E Benbow

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

Forensic entomology is frequently applied to terrestrial decomposition of carrion to estimate a postmortem interval (PSI), but this field has been less studied for decomposition within aquatic habitats. The main reason for this dearth of information is that terrestrial habitats are exposed to invertebrates that have evolved to feed solely on these carrion resources, while aquatic invertebrates have not. There is a clear successional pattern of invertebrates that utilize and breakdown terrestrial carrion, yet no distinct pattern has been described for aquatic carrion, leading to alternative paths of study to estimating a postmortem submersion interval (PMSI). One of the most promising paths is through the use of epinecrotic biofilms (complex microbial assemblages on carrion) that develop on the carrion resource. These communities are comprised of bacteria, fungi, and algae and develop in a successional pattern. Epinecrotic biofilms were sampled from four female swine carcasses that were placed in a second order stream in Farmersville, OH during July 2012. Samples were taken every three or four days until decomposition reached submerged remains. It took 24 days to reach this stage and was aided by biomass loss due to scavenging events. The biomass and primary production of epinecrotic biofilms was significantly less than epilithic biofilms (complex microbial assemblages on rocks). DNA was extracted to determine genetic community profiles based on diversity within bacterial, eukaryotic, and diatom microbial groups to establish a successional pattern that can be used as a PMSI estimate. These results will help fill a knowledge gap present in the forensic sciences.

## **Bioassessment of Outfall Water of the Mad River as well as Its Effects Downriver Using Aquatic Insects As Indicators**

**STUDENTS** Kevin M Sullivan

**ADVISORS** Mark E Benbow

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Course Project, 12 FA BIO 421 P1

There are several ways in which to determine the health of an aquatic ecosystem, and one of the ways is to gather and sample its insect population. Depending on the pollution tolerance an insect family has, its presence or lack thereof is an indication of healthy such an ecosystem is. Using this approach, we studied the health of outfall water approximately 1.5 miles from the Great Miami River. Over the course of the study, different habitats affected by the outfall water, as well as others up and downstream, were sampled on two different dates, and the samples were later

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identified by their family. The data indicated that the health of the outfall discharge was fairly poor, but that it did not affect the health of the Mad River downstream. Hypotheses for such findings may be due to the fact that the outfall is ephemeral in nature, impairing the ability for organisms to survive, and also lessening the output into the Mad River.

### **A Functional Key to the Stream Benthic Macroinvertebrates of the Republic of Palau**

**STUDENTS** Will P Kmetz

**ADVISORS** Mark E Benbow, Albert J Burky, Jennifer M Lang

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, POSTER - COURSE PROJECT, 13 SP BIO 421 P1

A Functional Key to the Stream Benthic Macroinvertebrates of the Republic of Palau Authors: Will Kmetz, Dr. Albert J. Burky, Jenifer Lang, Kaitlin Fochesato, Ali Wright, Dr. M. Eric Benbow, The presence of benthic macroinvertebrates in aquatic habitats is essential to its overall ecosystem health and provides valuable services such as indicating water quality and bottom ' up food web connections. Thus, assessment of such organisms is vital in determining the degree of stress any particular aquatic habitat may be under. Over the last decade, research has been conducted in the streams of the Republic of Palau to determine functional feeding groups and species composition of benthic macroinvertebrates for the means of rapid bioassessment, as well as to teach students and native Palauan's skills and techniques to assess fresh water streams. The sorting, identifying, and photographing of samples of stream benthic macroinvertebrates was used to develop a functional dichotomous key to aid in the process of rapid bioassessment in Palau. We found that filtering-collectors, gathering-collectors, and scrapers were the most abundant functional feeding groups, followed by shredders and predators. The filtering-collectors were dominated by the Decapoda, specifically the Atyidae (shrimps). The gathering-collectors were dominated by Diptera, specifically the Chironomidae (midges), and Simuliidae (black flies). The scrapers were dominated by Gastropoda, specifically the Neritidae (snails). And the predators were dominated by the Hemiptera (beetles and other true bugs) and the Odonata (dragonflies and damselflies). Since each macroinvertebrate taxa has a specific pollution tolerance and functional feeding group they fall into, identifying the presence, or absence, of these macroinvertebrates can help determine the overall health of the stream over a given time period.

### **A Year-Long Study of Carrion, Insects, and Scavengers**

**STUDENTS** James M Alfieri, Alexandra E Calteaux, Nichole K Henger, Lauren E Shewhart

**ADVISORS** Mark E Benbow, Jennifer Pechal

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

Decomposition of an animal is a complex ecological process involving multiple players. Knowledge of this ecology has important implications for forensic science and wildlife management. Microbes, invertebrates, and vertebrate scavengers have all been documented to utilize the short-term resource of carrion. However, relationships between these different groups have not been heavily studied. This year-long study consisted of three trials. In each trial, three to six purchased swine carcasses were placed on the edge of an agricultural field on private land in rural Ohio. For two trials scavenger-exclusion cages were placed over three carcasses to act as a control. Standardized insect and microbial collections were taken over the course of decomposition. Scavenging activity was recorded using motion-activated cameras positioned onto the carcasses. Results illustrate that there are seasonal differences in insect and scavenger communities. There are also diurnal differences in the arrival patterns of scavenger species. Scavenged carcasses also attract a different insect and microbial community, suggesting a complex relationship not previously studied.

### **Succession and Female Gravid Status of *Chrysomya ruffiacis* and *Cochliomyia macellaria* on Carrion**

**STUDENTS** James M Alfieri, Nichole K Henger, Erica N Watson

**ADVISORS** Mark E Benbow, Jennifer Pechal

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

*Chrysomya ruffiacis* and *Cochliomyia macellaria* are both found in the family Calliphoridae. Determining the sex ratio, gravid status of females and arrival patterns of these species is key to forensic entomologists for estimating the Post Mortem Interval. The objectives of this study were to 1) determine the blow fly arrival patterns and sex ratios and 2) develop regression models to predict female gravid status from head lengths. For the field study, six swine carcasses were purchased from a local meat processing facility and were placed on a field in rural Ohio. For three of the

carcasses they were placed in anti-scavenging wire cages while the other 3 were open to scavenging by vertebrates. Sticky traps were placed on poles near the posterior and anterior of each pig and collected on a daily basis. To determine female gravid status we used 20 *Ch. ruffiacus* and 20 *C. macellaria* raised in the lab at 10 and 30 days old. From these adults the ovaries and abdomen widths measured and number of eggs recorded. These measurements were then compared to head size. From the field study we found that *Ch. ruffiacus* and *C. macellaria* were the most abundant flies on the sticky traps and changes in the sex ratios during decomposition were observed. We also found that there was a correlation between abdomen width and number of eggs and ovary size, allowing us to determine female gravid status in future field studies.

### **Impact of Amur Honeysuckle (*Lonicera maackii*) Leachate on *Culex pipiens* Survivorship, Growth, and Pupation**

**STUDENTS** Lauren E Shewhart

**ADVISORS** Mark E Benbow, Ryan W McEwan

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

The objective of the study was to observe the effects of Amur honeysuckle (*Lonicera maackii*) leachate on the growth, development, and survivorship of *Culex pipiens* mosquito larvae. Amur Honeysuckle is an invasive species which was introduced to the United States in 1896 from Asia. Amur Honeysuckle is known to have allelopathic chemicals with unknown toxic effects. Honeysuckle leaves fall into many natural bodies of water where mosquitoes breed. These leaves leach their chemicals into the water, which may positively or negatively impact mosquito population. Since, mosquitoes are known to carry many pathogens, understanding the impact of this highly invasive species on their development is vital. In this study, three toxicity tests were run. The mosquito toxicity tests were used to determine survivorship, pupation, and emergence rates of *C. pipiens* larvae in various concentrations of leaf leachates of Amur honeysuckle and sycamore (*Platanus occidentalis*). The first trial had 6 treatments and used 120 fourth instar mosquito larvae. The second and third trials had 9 treatments and used 180 mosquito larvae. The larvae were checked every 12 hours for the number surviving, pupated, and emerged. The first trial ran for 72 hours and the other two trials ran for 96 hours. The preliminary data suggest honeysuckle may decrease the survivorship, growth, and pupation of *Culex pipiens*. If the allelopathic chemicals found in honeysuckle have a negative impact on mosquito populations, honeysuckle could be used for mosquito control.

### **A riparian forest invader, alters cross-system subsidies that change ecosystem processes**

**STUDENTS** Rachel E Barker

**ADVISORS** Mark E Benbow, Ryan W McEwan

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

The ecology of streams is linked to riparian forests through cross-system subsidies and, thus, alterations of the terrestrial plant community can have a substantial impact on aquatic biota and ecosystem function. In the Midwestern USA, the exotic shrub *Lonicera maackii* has successfully invaded riparian habitats, creating near-monocultures in many areas. This terrestrial invasion alters cross-system subsidies and, therefore, has direct impact on stream ecosystem processes. In this experiment, we removed *L. maackii* from a riparian forest to assess changes in organic matter subsidies, primary productivity, and aquatic macroinvertebrates. *Lonicera maackii* was removed (treatment) along a 150m stream reach, 10m downstream of a control (non-removal) reach, before natural leaf senescence in 2010. Over 35 d, in-stream leaf litter (coarse organic matter: COM) was collected weekly from plots located in riffles (5/reach). Benthic primary productivity, macroinvertebrate density, and particulate organic matter (POM) were measured monthly. *Lonicera maackii* removal decreased canopy cover and, paradoxically, significantly increased in-stream COM from native leaf litter during the first 14 d ( $P < 0.05$ ), demonstrating a 'filtering' effect of native organic matter. Invasive species removal also differentially influenced the timing and abundance of leaf litter genera within the stream. For example, *Platanus* spp. contributed the most COM within the removal reach (35-40%) but was mainly absent in the control reach ( $< 10\%$ ). Macroinvertebrate density increases were significantly delayed by two months in the non-removal ( $P = 0.0004$ ) and removal ( $P = 0.0279$ ) reaches after the corresponding peak in primary production. Macroinvertebrate density was generally higher in the removal reach, especially during autumn one year after removal. These findings suggest that removal of a dominant invasive shrub affects terrestrial organic matter subsidies into headwater streams, influencing the timing, quality, and abundance of leaf litter habitat and food resources for macroinvertebrates.

## Beta 2 Tubulin Amino Acids Required for Spermtail Axoneme Function

**STUDENTS** George H Neubauer

**ADVISORS** Mark G Nielsen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

Evolutionary changes in organism traits are primarily caused by random genetic mutations in their amino acid codons that end up altering the proteins produced. The main question of researchers is how changes occur that will give a protein a new function without detrimentally affecting the original function of the protein in the organism. Beta 2 tubulin in *Drosophila* is an ideal model to study this question because it has a very sensitive structure/function relationship. *Drosophila* contains two main types of tubulin: Beta 1 which is found in the majority of cells and testes specific Beta 2. These proteins differ in only a few amino acids, however Beta 1 is unable to support the function of Beta 2. The proposed continues study of what allows Beta 2 to make a spermtail when Beta 1 cannot. I will investigate a synergistic interaction between amino acids 29, 55, and 57 of the testes specific Beta 2 tubulin protein in *Drosophila* by exchanging Beta 1 codons with Beta 2 identity at these sites to generate a chimeric Beta 1-Beta 2 tubulin (TGARC). The ability of TGARC to support spermtail axoneme function will be determined through fertility studies, protein expression analysis, sperm tail length comparisons, and axoneme cross sectional comparisons using TEM.

## Studying the Evolution of Beta 2 Tubulin in Dipterans

**STUDENTS** William J Scharpf

**ADVISORS** Mark G Nielsen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

220 MYA mosquitoes (*Anopheles gambiae*) and *D. melanogaster* shared a common ancestor that had the Beta 2 tubulin gene in its genome. From that time to present, the Beta 2 gene has evolved to its present form in *D. melanogaster* and *A. gambiae*. We know the sequence for Beta 2 in *D. melanogaster* and in mosquitoes, they differ at 40 codons. We are attempting to construct a phylogenetic tree that shows where genetic changes occurred in its evolutionary history since mosquitoes and flies shared a common ancestor. This is done by combining different sets of 3' and 5' primers constructed from the *Anopheles gambiae* and *D. melanogaster* B2 sequences in PCR, and using PCR to clone Beta 2 in fly species closely related to *D. melanogaster*:. *Anastrepha suspense* (80MYA from *melanogaster*), *Musca domestica* (110MYA ), and *Chrysops* spp. (130MYA). We construct this tree by plotting changes in the B2 sequence on a fly phylogeny. With a complete tree, we can better understand the nature of amino acid changes that allowed Beta 2 to evolve while maintaining its function. We can then express the B2 gene from these species in *Drosophila*, to determine if they support its spermtail.

## Differential Expression of Genes Between Dorsal and Ventral Iris Undergoing Lens Regeneration in *Notophthalmus viridescens* Revealed by Next Generation RNA Sequencing

**STUDENTS** Konstantinos Sousounis

**ADVISORS** Panagiotis A Tsonis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

*Notophthalmus viridescens*, the red-spotted newt, shows great regenerate capabilities. They can regenerate their limbs, heart, tail and eye parts. Noteworthy, the eye lens can be regenerated after complete removal (lentectomy) from the dorsal iris. Thus, lens regeneration involves the change of iris cells to lens cells, a process called transdifferentiation. Ventral iris does not participate in the process and can serve as natural negative control. In order to study what genes are expressed during this remarkable process, we utilized high-throughput RNA-sequencing, a method that gives mRNA sequence information and corresponding expression in the tested samples. We used dorsal and ventral iris 4 and 8 days post-lentectomy, two major time points for cell cycle re-entry and dedifferentiation, respectively. Differential expression of more than 38,000 annotated genes was studied between dorsal and ventral iris at both these time points. Highly differentially expressed genes in the dorsal or ventral iris were validated using quantitative real-time polymerase chain reaction. Those genes were *TBX5*, *UNC5B* and *FGF10* in the dorsal iris and *VAX2*, *NTN1* and *NR2F5* in the ventral iris. Genes up-regulated in dorsal or ventral iris were grouped based on gene ontology terms (GO) and fisher's exact test was used to determine over-represented GO in the dorsal or ventral iris. We found that GO related to gene regulation, cytoskeleton, cell cycle and immune response were enriched in the dorsal iris, whereas GO related to transposons were enriched in the ventral iris. This study showed



differences between dorsal and ventral iris which account for dorsal iris' ability to regenerate the lens. In addition, we found markers that specify dorsal or ventral iris. Based on this valuable resource, functional future studies can elucidate the mechanism of lens regeneration which can shed light to potential therapeutic applications to higher vertebrates and eventually to humans.

## **Qualitative Assessment of the Past and Present Geomorphological Processes Affecting Silver Lake in Miami County, Ohio**

**STUDENTS** Ellen L Comes, Charlie Andrew Jackson, Anastasia I Stolz, Wesley D. Tidball

**ADVISORS** Patrick K Williams

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Course Project, 12 FA BIO 479L P1

The regional scale geomorphic processes that have shaped the Midwestern United States over the past 5 million years have resulted in a multitude of unique landforms including ancient river valleys, a vast network of aquifers, and numerous kettle lakes. These individual entities have been explored and described by a variety of earth scientists; however, the dynamic interaction between all three of these has sparsely been investigated and/or published. Silver Lake located in Miami County, Ohio has yet to be formally characterized by the scientific community. The known geomorphological history of the Midwestern United States, as described within, can provide a conceptual basis of which the origin of Silver Lake can be derived. A qualitative field assessment of Silver Lake was conducted in order to identify critical geomorphic evidence used in the comparative analysis process.

## **The invasive shrub Amur honeysuckle (*Lonicera maackii*) influences nutrient dynamics in headwater streams**

**STUDENTS** Courtney L Dvorsky

**ADVISORS** Rachel E Barker, Ryan W McEwan

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Course Project, 13 SP BIO 421 P1

Nutrient pollution in streams is a critical environmental problem for society. Elevated levels of nutrients can contaminate human water supply, negatively impact aquatic organisms and can reach levels that support harmful algal blooms- which are a human health threat. Nitrogen and phosphorus are two of the most important nutrient pollutants negatively impacting streams. The invasive species, *Lonicera maackii* (Amur honeysuckle) is a highly effective invader of streamside forests and there is a strong possibility that honeysuckle is impacting stream nutrient pollution. This experiment aims to study the impact of honeysuckle invasion on nutrient levels in streams. Nutrient diffusing substrates (NDS) will be used to test nutrient availability in three local headwater streams, specifically in reaches containing *L. maackii* and one where *L. maackii* was removed. This allows for nutrient comparisons between stream sites and between reaches where *L. maackii* is or is not present. NDS consist of a polycarbonate cup containing nutrient rich agar that will diffuse nutrients into the stream across a porous ceramic tile, which serves as a substrate for biofilm development. There will be four NDS treatments: (1) control with no nutrients, (2) nitrogen, (3) phosphorous, (4) both nitrogen and phosphorous. The NDS will be deployed in March for 18-21 days, and biofilm growth will be analyzed for chlorophyll a pigmentation. Diffusing substrates with elevated algal growth will be indicative of nutrient limitation associated with that NDS for that stream. It is hypothesized that stream sites with *L. maackii* forests will not be limited in nutrients. These results will provide a framework for future *L. maackii* nutrient work at UD and help our understanding of how invasive plants impact stream ecosystems.

## **The Micro-Ecology of Plant Invasion: Assessing Impacts of the Invasive Exotic Shrub *Lonicera maackii* on the Ecology of Soil Microbial Communities**

**STUDENTS** Kara J Dickey

**ADVISORS** Ryan W McEwan

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, poster - honors thesis

Invasive exotic species are a significant threat to ecosystems across the globe and pose a monumental challenge for resource managers. The mechanisms by which these species impact ecosystems are imperfectly understood and science is still without a unified theory to explain how these species usurp habitat space, displacing natives. Invasive species dominance may be partially explained by escape from pathogens that sup-

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press native plants, or disruption of native mutualisms. A relatively unstudied aspect is the relationship between invasive species and microorganisms inhabiting soil. *Lonicera maackii* is a model invasive species that impacts forests in the Miami Valley of southwestern Ohio. In this study we will focus specifically on colonization of roots by the microbial community and potential feedbacks to plant growth. The microbial community on *L. maackii* roots will be compared to that of native species using a metabolic profiling technique.

### **An Organic Approach to Defending Trees Against an Insect Menace: A Service-Learning Search for Solutions to the Emerald Ash Borer.**

**STUDENTS** Charlie Andrew Jackson

**ADVISORS** Ryan W McEwan

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

Emerald Ash Borer (*Agrillus planipennis*) (EAB), is a phloem eating, woodboring beetle accidentally introduced in North America. EAB was first introduced in 2002 to Detroit, Michigan and has since rapidly spread killing millions of ash (*Fraxinus* spp.) trees. Currently, repeated insecticide applications for the remainder of the tree's life are the only effective treatment method for protecting ash trees from EAB. This study both examined the effects an organic fertilizer developed by Monty's Plant Food has on a survival of both insecticide treated and not treated ash trees, and educated the public on this insect menace. Signs along the trails and pamphlets were made to educate the public on EAB. Additionally, all ash trees around Cox Arboretums trails were marked with white dots to show hikers the magnitude EAB will have on forests Forty-eight ash trees at Cox Arboretum in Dayton, Ohio received either insecticide only, fertilizer only, both insecticide and fertilizer, or no treatment. Tree mortality rates among the different treatments were monitored in order to gauge the effectiveness Monty's organic fertilizer had on individual ash tree survival. Preliminary results support that both the insecticide and to a lesser degree Monty's Plant Food's organic fertilizer were effective treatments when trying to protect individual ash trees from EAB. Findings of this study could impact land management practices related to EAB treatment as well as environmentally conscious home owners.

### **Spatial and Temporal Patterns of Herb-layer Biodiversity in an Old-growth Temperate Deciduous Forest**

**STUDENTS** Amy L Price

**ADVISORS** Ryan W McEwan

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Course Project, 12 Fa Bio 421 P1

Understanding the factors that drive spatial and temporal distribution of biodiversity is critical for both natural resource management, and ecological theory. Herbaceous species in the understory of deciduous forests are species rich; however, the factors dictating spatial and temporal patterns of herb-layer biodiversity are not well understood. Due to the absence of anthropogenic disturbance, old-growth forests offer an unparalleled opportunity for assessing the relationship between environmental factors and herbaceous biodiversity. A series of six approximately bi-weekly herbaceous layer samplings were conducted across 32 1-m<sup>2</sup> circular plots located within the Drew Woods State Nature Preserve in Darke County, Ohio. Within the sampling plots, all species were identified and percent vegetative cover was estimated using a modified Domin scale. The vascular flora of this 6 ha site was also inventoried, and voucher specimens were deposited in the University of Dayton herbarium. Spatial patterns were visualized using ArcGIS software and linear regression analyses were used to test for relationships between richness, cover, and distance from southern and western edges. A total of 166 species were identified across 116 genera and 66 families. The majority of species were native (91%), and characteristic native herb species included *Jeffersonia diphylla*, *Trillium sessile*, *Allium tricoccum*, and *Erythronium americanum*, all of which are indicative of high-quality forest. A north-south gradient of species richness was found, with the southernmost plots tending to be most species-rich ( $P < 0.01$ ,  $r^2 = 0.42$ ). Vegetative cover did not display any distinct spatial pattern, but plots with the highest cover values had a high abundance of *Alliaria petiolata*, a non-native invasive herb. Plots that contained *A. petiolata* tended to have lower species richness, though this relationship was weak ( $P < 0.05$ ,  $r^2 = 0.1$ ).

### **Defining the transcription factor genes and their target gene interactions for a model developmental and evolutionary trait**

**STUDENTS** Sumant Grover, William A Rogers, Samantha J Stringer

**ADVISORS** Thomas M Williams

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

Morphological traits are the developmental products of networks of genes whose activities are interconnected at the level of gene regulation. These connections, or regulatory linkages, consist of transcription factors interacting with binding site sequences in target gene cis-regulatory elements. Several model developmental networks have been well characterized and found to be complex in structure; ranging from tens to upwards of a hundred transcription factors, and a far greater number of regulatory linkages. However, the mechanisms by which network structure evolves remain poorly understood. A barrier to understanding how regulatory linkages have evolved is the co-requisite that a network's phenotypic product has evolved over short evolutionary time scales. One suitable developmental and evolutionary trait is the abdominal pigmentation patterns for fruit fly species. These patterns have diversified at the intraspecific and interspecific levels, which include the derived male-specific pattern possessed by the model organism species *Drosophila melanogaster*. To date, only four transcription factor genes have established roles in this species pigmentation network. This suggests that either this network is simple, or has a regulatory complexity that remains poorly characterized. To distinguish between these two possible scenarios, we evaluated over 500 transcription factors genes for loss-of-function effects on this dimorphic trait. From this screen, we indentified over 15 new network transcription factor genes that we have begun to characterize their downstream cis-regulatory element targets. These findings indicate that this pigmentation network is more complex than previously appreciated, perhaps approaching the complexity of other model networks. Looking forward, this new wealth of network transcription factors affords numerous candidate loci whose patterns of expression or regulatory linkages may have evolved to generate phenotypic diversity.

### **The mutations, molecular mechanisms, and constraints directing the evolution of a *Drosophila* cis-regulatory element**

**STUDENTS** William A Rogers, Joseph R Salomone

**ADVISORS** Thomas M Williams

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

A major goal of evolutionary developmental biology research is to illuminate how evolution acts on development to cause phenotypic change. A wealth of data implicates changes in gene expression as the predominant means by which morphological traits evolve, and likely via mutations in cis-regulatory elements (CREs) that specify gene expression patterns. Each expression pattern is encoded in a CRE as a regulatory logic comprised of a collection and organization of binding sites for certain transcription factor (TF) proteins. While several case studies have identified instances of CRE evolution, how encoded regulatory logics evolve remains poorly understood. An intraspecific comparison of *Drosophila melanogaster* sexually dimorphic abdominal pigmentation patterns presents an opportune situation to reveal how regulatory logics evolve. The degree of female pigmentation varies between populations and this variation stems from genetic variation at the *bric-1-brac* (*bab*) locus, which encodes the Bab TF proteins that act as repressors of pigmentation development. Bab expression in females is controlled by a CRE known as the dimorphic element. We identified four dimorphic element alleles that possess different gene regulatory capabilities. By determining the sequence and function of the CRE possessed by the most recent common ancestor of these extant populations we were able demonstrate how few mutations were necessary and sufficient to alter the function of the derived alleles. Ongoing studies seek to reveal how these few mutations of a relatively large effect modify an ancestral regulatory logic.

### **Identifying the DNA Sequence Requirements for a Synergistic Interaction Between Two Cis-Regulatory Elements**

**STUDENTS** Kaitlyn R Francis

**ADVISORS** Thomas M Williams

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

My thesis research studies the genetic material that is the blue print to make animal life. In animals, a key type of genetic material is sequences collectively referred to as cis-regulatory elements (CREs). These sequences control the expression of genes; more specifically they instruct when to turn "ON" or "OFF" the production of a gene's functional product. My research investigates the interaction between the two CREs, the Anterior Element and Dimorphic Element, of the fruit fly species *Drosophila melanogaster*. These two CREs act synergistically to produce a pattern of ex-

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pression for the bab1 and bab2 genes that differs between male and female flies. As synergistic CRE interactions have seldom been reported, my research has sought to identify the necessary sequences for this interaction. Learning more about CRE functions in fruit flies will facilitate a better understanding as to how CREs function in our own genetic material.

### **Red Light, Green Light: A Novel Approach to Study Interactions between Enhancers and Gene Promoters**

**STUDENTS** Eric M. Camino, Jordan E Vellky

**ADVISORS** Thomas M Williams

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Independent Research

The genes found within animal genomes are selectively expressed. The mechanisms behind this selectivity have received considerable attention yielding a current model of regulation; in various cell types, developmental time points, and/or environments, DNA sequences known as “enhancers” interact with gene “promoters” in order to switch ON or OFF expression. While promoters are located just upstream of a gene’s transcriptional start site, enhancers reside in more diverse locations including introns, and both upstream and downstream of the regulated gene. Moreover, enhancers can be located at great distances from their target promoter, often in closer proximity to non-target gene promoters. It remains poorly understood how enhancers find their target gene promoter(s) in the 3-dimensional cell nuclei. Here, we present a research project seeking to develop a transgenic system in *Drosophila melanogaster* fruit flies that will facilitate the identification of sequences in enhancers and promoters that are necessary for long distance communication. This system will use two distinct fluorescent protein genes in order to track proximal and remote gene activation in vivo, and that will be easy to customize with different enhancer and promoter sequences, including mutant sequences. We anticipate certain enhancer mutations will disrupt long distance enhancer-promoter communication while leaving the enhancer’s pattern of activity intact. As promoters and enhancers are general components of animal genes, this approach may be applied to other species, such as humans and mice, to study similar long distance interactions.

### **A Characterization of Regulatory Linkages in a Genetic Network for a Derived Fruit Fly Trait.**

**STUDENTS** Eric M. Camino, Molly K Cremons, Mary Patricia List, Jordan E Vellky

**ADVISORS** Thomas M Williams

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

Phenotypes are the culmination of spatial and temporal patterns of gene expression of genes comprising a genetic network. These patterns are controlled by cis-regulatory elements (CREs) and genes are connected into networks when a CRE regulating its expression possesses binding sites for network transcription factor proteins - so called regulatory linkages. Gains and losses of linkages are a suspected common route of CRE and network evolution; though, their emergence remains poorly understood as few cases have revealed the before and after states in sufficient detail. The male-specific abdominal pigmentation of *Drosophila melanogaster* evolved from a monomorphic ancestral state, a key modification to the pigmentation network being the evolution of sexually dimorphic expression of the Bab transcription factor proteins. These proteins turn off expression of the yellow and tan genes that are required for pigmentation. The research presented here addresses two questions. First, does Bab form direct regulatory linkages with CREs that control the male-specific expression of the *Drosophila melanogaster* yellow and tan genes? Second, when historically were these CREs and their regulatory linkages gained? To answer these questions we are: systematically mutating CRE sequences to find motifs needed to integrate the repressive effects of Bab, and evaluating the regulatory activities of sequences related to the *Drosophila melanogaster* CREs. Future studies will explore whether this divergence included the gain of Bab binding sites in dimorphic species or whether these binding sites were ancestral and conserved during trait evolution.

### **The Ancestry and Evolution of the Fruit Fly t<sub>MSE</sub> Cis-Regulatory Element**

**STUDENTS** Connor W McNamee

**ADVISORS** Thomas M Williams

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

Animal development proceeds by continuously changing patterns of gene expression, where patterns are controlled by a type of DNA sequence known as a cis-regulatory element (CRE). How gene expression patterns are encoded in DNA sequence remains poorly understood. My thesis research studied a CRE, known as the *t<sub>MSE</sub>*, which controls the male-specific expression pattern for the *Drosophila melanogaster* gene known as *tan*. This expression pattern is required for this species male-specific pigmentation, and the pattern is modified or absent in related fruit fly species. I isolated and evaluated this CRE's sequence and gene regulatory activity from various species and populations. My results pinpointed the evolutionary origin of the *t<sub>MSE</sub>* and showed a surprising case of introgression between two sympatric species. These results make possible future studies to identify which sequence changes are responsible for this CRE's nascence and what the adaptive significance might be for its introgression.

### **The Shaping of a Dimorphic Trait: The Evolution of Bab Paralog Expression and Abdominal Pigmentation among *Sophophora* Fruit Fly Species**

**STUDENTS** William A Rogers, Joseph R Salomone

**ADVISORS** Thomas M Williams

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

The development of animal traits is controlled by networks of genes that are connected by interactions between transcription factors and target gene cis-regulatory elements. Changes in these connections alter the expression of genes and are suspected to be a common mode by which traits evolve. A mechanistic understanding of this mode requires investigations into the expression patterns of network genes to identify those whose expression evolved. One prominent model is the evolution of male-specific abdomen pigmentation from a monomorphic ancestral state in the fruit fly subgenus *Sophophora*. For *Drosophila melanogaster*, male-specific pigmentation is controlled by the dimorphic expression of the paralogous *Bab1* and *Bab2* transcription factors that repress pigmentation. These expression patterns are thought to have evolved from a monomorphic ancestral state. My thesis research studied the timing and location of *Bab* expression in diverse species and discovered a more nuanced history of expression pattern evolution.

### **Mutation Frequency in Mouse Embryonic Stem Cells After Exposure to Carbon Nanomaterials**

**STUDENTS** Jacqueline L Severt

**ADVISORS** Yiling Hong, Carissa M Krane

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

Nanomaterials are materials with morphological features of nanoscale dimension, often possessing unique electrochemical properties due to such dimension sizes. Nanomaterials are becoming increasingly valuable, particularly with applications in fields of biomedical, electrical, optical and materials science and technology. While much investigation is still required, current research suggests that nanomaterials could pose a risk to human health. The intention of this research is to investigate mutagenesis and mutation frequency in mouse embryonic stem cells, which are cells derived from an early-stage developing embryo. These cells possess unique properties of self-renewal and pluripotency. This study investigated the mutation frequency of mouse embryonic stem cells following treatment exposure to carbon nanofibers, carbon nanotubes, and multi-walled carbon nanotubes.

### **Search for the modifiers of amyloid- $\beta$ -42 mediated cell death in *Drosophila* eye**

**STUDENTS** Andrew M Steffensmeier

**ADVISORS** Amit Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Honors Thesis

Alzheimer's disease (AD) is an age-related, progressive neurodegenerative disorder. The reason for Alzheimer's neuropathology is the generation of large aggregates of A $\beta$ 42 that are toxic in nature, and induce oxidative stress, aberrant signaling and many other cellular alterations that trigger neuronal cell death. However, the exact mechanisms leading to cell death are not clearly understood. We employ a *Drosophila* eye model of AD to study how A $\beta$ 42 causes neurodegeneration. Misexpression of higher levels of A $\beta$ 42 in the differentiating photoreceptors of the fly retina rapidly induced aberrant cellular phenotypes and cell death. We looked for the modifiers of neurodegeneration phenotype of A $\beta$ 42 in the eye disc as well

as the adult eye using a gain-of-function approach. Here we present our findings on the genetic interactions of one of the modifier which can rescue the amyloid plaque mediated cell death in the *Drosophila* eye.

## Domain specific function of Cullin-4 to promote cell survival in the ventral eye compartment in *Drosophila*

**STUDENTS** Meghana Tare

**ADVISORS** Amit Singh

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Biology, Poster - Graduate Research

During organogenesis, axial patterning is required for transition of a monolayer organ primordium to a three-dimensional organ. The first lineage restriction event of generation of dorsal and ventral compartments in the *Drosophila* eye is an outcome of domain specific expression and/or function of proteins during early larval development. We identified an ubiquitin ligase cullin-4 (*cul-4*) as a new member of ventral eye gene hierarchy. We have found that *cul-4* acts downstream of Lobe (L), a ventral eye gene, and is involved in regulating Wingless (Wg) signaling in the ventral eye. Loss-of-function of *cul-4* results in the preferential loss of ventral eye cells due to Wg mediated induction of cell death. Wg, acts as a negative regulator of eye development, and is involved in induction of cell death through activation of Caspases as well as JNK signaling pathway. However, Wg has also been reported to interact with a transcriptional factor dE2f1 (a regulator of G1-S transition during cell cycle) in the wing disc in order to promote the cell growth. Interestingly, dE2f1 is also a reported target of *cul-4*. Up-regulated as well as reduced levels of dE2f1 have been reported to induce cell death in developing tissues. We propose to study if *cul-4* is involved in promoting cell survival during early eye development via interacting with dE2f1. Our studies will help to discern a novel mechanism for regulation of cell cycle during axial patterning in order to promote cell survival involved in organogenesis.

## UV-Induced Photodegradation of $\beta$ -Carotene in Hexane Solvent

**STUDENTS** Marissa L Dunyak, Timothy C. Sack, Ephraim D. Tolbert

**ADVISORS** David W Johnson, Mark B Masthay

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Capstone Project

Air-saturated and deoxygenated solutions of  $\beta$ -carotene ( $\beta\text{C}$ ,  $\sim 10^{-5}\text{M}$ ) in hexane were irradiated with the 254, 313, and 365 nm lines of a mercury lamp and the rate of  $\beta\text{C}$  photodegradation was monitored by the loss of absorbance at  $\lambda_{\text{max}} = 450\text{ nm}$  over one or more half-lives. The first order rate constants at 313 nm were  $k_{\text{air}} = .0043\text{ sec}^{-1}$  and  $k_{\text{deox}} = .0012\text{ sec}^{-1}$ , with comparable relative rates at 254 and 365 nm, suggesting that oxygen plays a significant role in photodegradation of  $\beta\text{C}$  in hexane and - because of the similarity of hexane to the hydrophobic regions in cell membranes - in human skin. The photoproducts were non-fluorescent and proved difficult to separate via TLC. A mechanism and a set of potential photoproducts resulting from the addition of  $\text{O}_2$  across  $\text{C}=\text{C}$  bonds followed by subsequent  $\text{C}=\text{C}$  bond cleavage are proposed.

## Solid State NMR of Beryllium Exchanged Minerals: A Study of Beryllium in Clays and Soils

**STUDENTS** Taylor D Pair

**ADVISORS** Garry Crosson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Capstone Project

The toxicity of beryllium requires that chemists seek a better understanding of how beryllium and its compounds interact with environmental surfaces. Solid-state nuclear magnetic resonance (NMR) is a robust and well-known technique for evaluating the interaction of metals with soil components. In the study presented here, an attempt is made to further understand how beryllium metal sorbs to different soil components under varied solution conditions via Be-9 magic angle spinning (MAS) NMR. NMR spectra acquired for 5 clays and two soils under varied pH conditions indicated that the electronic environment of beryllium in each matrix was the same. Based on the results, we conclude that the nature of the environmental surface or the solution conditions does not impact the local environment of beryllium. A practical impact of our observations is that when present in soils beryllium is likely to migrate with water under acidic conditions. The nature of our observations is discussed herein.

## Synthesis and Characterization of Polyimides Containing Multi-benzonitrile Groups for Dielectric Applications

**STUDENTS** Brian A Kurish

**ADVISORS** Garry Crosson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Capstone Project

Polyimides (PIs) represent one of the most important classes of specialty polymers. Polyimides containing benzonitrile units have been studied for the piezoelectric and other dielectric applications due to the high polarity of nitrile groups. In previous research, one unsymmetric and two symmetric diamines as well as their respective polyimides containing benzonitriles were synthesized. Introduction of the unsymmetrical structures improved the processability of poly(amic acids) (PAAs) and increased the PI dielectric constants while the dielectric loss was low. As a continuing effort to probe the structural factors to balance the need for high dielectric constant, low dielectric loss, and thermal stability in high temperature capacitors, polyimides containing three benzonitrile groups were synthesized. Their glass transition temperatures range from 216 to 305 degrees celsius. The polyimides are stable up to 400 degrees celsius. The dielectric constants of these polyimides increased from 2.9 (CP2) to 4.3 (6FDA-based polyimide) at 10 Hz.

## Microcanonical and Canonical Temperatures in Two-Level Paramagnetic Spin Lattices

**STUDENTS** Calley N. Eads

**ADVISORS** Joe Don Mashburn, Mark B Masthay

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Capstone Project

Microcanonical temperatures - defined as the "tangential" ( $T_\mu = [\partial U / \partial S_\mu]_{N,V}$ ) or "discrete" ( $T_d\mu = [\Delta U / \Delta S_\mu]_{N,V}$ ) slopes of U vs. S profiles - can be employed in studies of small, isolated and/or non-equilibrium systems. We compare the dependence of  $T_\mu$  and  $T_d\mu$  of paramagnetic spin lattices (PSLs) on magnetic field strength and number of spins N to those of the "tangential" ( $T_c = [\partial U / \partial S_c]_{N,V}$ ) and "discrete" ( $T_d c = [\Delta U / \Delta S_c]_{N,V}$ ) canonical temperatures. We demonstrate that the sign, magnitude, field- and size-dependence of  $T_\mu$ ,  $T_d\mu$ , and  $T_d c$  closely mimic those of  $T_c$ , indicating that  $T_\mu$ ,  $T_d\mu$  and  $T_d c$  are legitimate measures of temperature, and that the four temperatures are non-intensive and the microcanonical and canonical entropies  $S_\mu$  and  $S_c$  are non-extensive for small ( $N \leq 10^{15}$ ) PSLs. The entropies converge and become extensive in the thermodynamic limit. We detail the origin of the non-extensive entropies, as they indicate that small PSLs violate Boltzmann statistics.

## Tis7 Regulation of Intestinal Nutrient Absorption and Adaptation in Short Bowel Syndrome

**STUDENTS** Taylor E Geisman

**ADVISORS** Kevin M Church

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Honors Thesis

Short bowel syndrome from intestinal resection due to Crohn's disease, ischemia, trauma, or other diseases is an important cause of morbidity, mortality, and health care costs, particularly in patients dependent on total parenteral nutrition. Novel therapies are needed to enhance the small bowel adaptive response and improve functional capacity following gut injury. Our lab previously showed that expression of the transcriptional co-regulator Tis7 is markedly increased in enterocytes following 50% small bowel resection in mice. Transgenic mice that overexpress Tis7 in enterocytes have increased rates of triglyceride absorption and increased whole body adiposity, whereas Tis7 knockout mice fed a high fat diet are protected from weight gain. Following resection, transgenic Tis7 mice tolerate a high fat diet and have enhanced fat absorption when compared to their wildtype littermates. However, when fed a control diet, Tis7 transgenic mice stop gaining weight whereas wildtype mice continue to gain weight, hinting that enhanced triglyceride influx may come at the expense of other nutrients. To test this hypothesis, attempts were made to restore weight gain in transgenic resected mice by alternating the high fat and control diets daily, and intestinal glucose and proline uptake rates in each set of mice were measured in vitro using everted bowel technique. Glucose absorption was not significantly altered between the transgenic and wildtype mice; however, wildtype mice absorbed significantly more proline than their transgenic littermates. Thus, triglyceride absorption may come at the expense of amino acid absorption, as groups of amino acids share common transporters so the results may not be limited to proline.

## **The Development, Formulation and Stability of Suds and Antifoam for Heavy Duty Liquid Laundry Detergents**

**STUDENTS** Erin J Roark

**ADVISORS** Mark B Masthay

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Honors Thesis

The use of heavy duty liquid laundry detergent (HDL) is widespread among the world, seen by the 35 billion loads of laundry Americans perform each year (Shehan). The integration of softness, brightness, freshness, cleanliness, etc. into clean clothes must take in a number of factors. The concentration of this paper is the aspect of suds and foam due to the mechanical action of the surfactants in liquid laundry detergent. While suds can be an indication of the chemicals at work, it also interferes with the performance of the washing machine. Too many suds lead to more water consumption, longer cycles and more energy use. As companies pursue more eco-friendly ways of manufacturing products, the control of suds is one way to contribute. This literature review will look at the background of foam and foam suppressors, silicone and MQ resins through scholarly articles and patents. Along the way, there will be an exploration of various ways to quantitatively measure foam data, properties and chemical compounds that are best for suds suppression.

## **The added elements in the DNA Binding Region of the PriA protein of Deinococcus Radiodurans may serve to modulate PriA unwinding activity**

**STUDENTS** Anam Khan

**ADVISORS** Matthew E Lopper

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Capstone Project

DNA replication restart is the process by which the replication machinery must be reloaded onto a DNA template following disruptive encounters of the DNA synthesis enzymes with damaged DNA. PriA helicase is a protein that is responsible for many of the activities required for DNA replication restart pathways. The PriA protein is an extremely well-conserved protein with very little variability across almost all species of bacteria, with the exception of *Deinococcus radiodurans*. *D. radiodurans* is a bacterium that can withstand extreme conditions including large amounts of ionizing radiation that induces severe damage to its DNA. The priA gene in *D. radiodurans* has 3 major insertions making it larger than the priA gene found in most other bacterial species. These inserted regions may serve to enhance the activity of the PriA protein within the *D. radiodurans* bacterium contributing to increased DNA unwinding and efficient DNA repair. This study examined the 70 amino acid insertion in the DNA binding region of the protein because it is the largest insertion among the three regions and hence has the most variation in comparison to a typical PriA protein. I hypothesize that this region enhances the DNA unwinding activity of the PriA protein in *D. radiodurans* making it a much better DNA repair helicase enzyme compared to most other PriA proteins and can therefore contribute to the extreme resistance the *D. radiodurans* bacterium possesses.

## **The Effect of the Inserted Sequence in the Helicase Domain of the Deinococcus radiodurans PriA Protein**

**STUDENTS** Kelsey Patricia Mayrand

**ADVISORS** Matthew E Lopper

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Honors Thesis

PriA, a replication restart protein found in bacteria, is highly conserved in almost all prokaryotes. However, it contains extra amino acid sequences in the microbe *Deinococcus radiodurans*. Since *D. radiodurans* is extremely resistant to ionizing radiation, these insertions could play a role in conferring resistance by improving the microbe's ability to continue replication after DNA is damaged. The project investigated the effects of the fifty-six amino acid insertion in the helicase domain of the PriA protein in *D. radiodurans*. To do this, a version of the PriA gene lacking the inserted element was cloned. The recombinant and wild type PriA proteins were over-expressed in *E. coli* and purified. Helicase assays were performed to compare the functions of the forms of the protein. It was hypothesized that the inserted element would enhance the helicase activity of the



protein. However, helicase assays showed that the mutant unwound DNA more efficiently. This means that the inserted element inhibits the helicase activity of PriA.

### **Investigation of a 70 Amino Acid Insert in the DNA Binding Domain of *Deinococcus Radiodurans* PriA**

**STUDENTS** Erin E Gallagher

**ADVISORS** Matthew E Lopper

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Honors Thesis

The goal of this research is to study the replication restart pathway of an unusually radiation resistant species of bacteria, *D. radiodurans*. This pathway is used to restart DNA replication after DNA damage has been repaired. Specifically, I investigated the function of an additional 70 amino acid element in the DNA binding domain of *D. radiodurans* PriA. It was hypothesized that there will be a relation between the insert and the radiation resistance seen in *D. radiodurans*. This will be accomplished by cloning the DNA binding domain of *D. radiodurans* priA. The recombinant PriA protein will be analyzed with DNA binding assays. Attempts will also be made to crystallize the DNA binding domain of *D. radiodurans* PriA to obtain a high resolution structural model. It is predicted that the additional sequence in PriA will affect the protein's ability to bind to DNA, and that this difference in binding will partly explain the increased radiation resistance seen in *D. radiodurans*.

### **Mechanistic studies of inhibitors of DNA replication restart pathways in *Neisseria gonorrhoea***

**STUDENTS** DRK Chaitanya Aduri

**ADVISORS** Matthew E Lopper

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Graduate Research

Complete and faithful replication of a cell's genetic information is an essential process. Many enzymes are involved in the successful duplication of genetic information and the integrity of these enzymes can be compromised when they encounter DNA damage. Bacterial cells use a pathway called DNA replication restart to resume DNA replication following a disruptive encounter of the DNA replication enzymes with DNA damage. This pathway is catalyzed by primosome proteins, including PriA, PriB, PriC, DnaI, DnaB, DnaC, and DnaG. The importance of DNA replication restart for bacterial cell survival is demonstrated by the inability of strains that carry mutations in key primosome genes to grow and resist DNA damaging agents. Furthermore, this pathway is specific for bacterial cells: human cells don't use the same replication restart pathway and they don't encode genes for the primosome proteins that function in bacteria. Since DNA replication restart pathways are essential for bacterial cell growth and survival and are notably absent in human cells, we seek to answer the following question: can bacterial DNA replication restart pathways be targeted with novel antibacterial compounds? In order to answer this question, we have developed an enzyme based assay for high-throughput inhibitor screening to identify compounds that block the function of the primosome proteins PriA and PriB. Several interesting lead compounds have already been identified from the preliminary screening. In this study, the lead compounds have been validated as legitimate inhibitors and characterized with respect to their potency and mechanism of action.

### **Preparation of some new epoxy-functionalized phosphonate and phosphate esters as reactive flame retardants for polyurethane**

**STUDENTS** Karl J Seiwert

**ADVISORS** Vladimir A Benin

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemistry, Poster - Capstone Project

New phosphonate and phosphate esters, containing an epoxide functionality, have been prepared and characterized, in an effort to design and implement the next generation of reactive monomers for polymers with inherent flame-retardant properties. Several synthetic pathways were explored and utilized. Thus, phosphonate esters were successfully prepared using protocols based on the Michaelis-Arbuzov reaction or alkylation of dialkyl phosphites, with or without subsequent epoxidation. Phosphate esters were generated from chlorophosphates, followed by epoxidation.

# COLLEGE OF ARTS & SCIENCES

## **An Application of Intercultural Communication Theories in the Spanish Workplace**

**STUDENTS** Kaitlyn E Malson

**ADVISORS** Teresa L Thompson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Communication, Poster - Honors Thesis

This research project examines intercultural communication as seen in a Spanish workplace, by looking at the application of certain intercultural communication theories in the context of Grupo SM's University of Dayton Publishing (UDP), an educational publishing company where people from Spain, Great Britain, Canada, and the United States co-create electronic and print learning materials for foreign language programs in the Spanish-speaking world. The communication theories I studied and later applied to UDP include William Gudykunst's Anxiety-Uncertainty Management Theory, Stella Ting-Toomey's Face-Negotiation Theory, Geert Hofstede's Cultural Dimensions Theory, and Edward Hall's theory of high context versus low context cultures and styles of communication. While interning for UDP, I conducted semi-structured interviews with my colleagues and then supplemented these interviews with ethnographic observations in order to determine whether the theories that I studied held up in a real-life atmosphere of cultural and linguistic bilingualism.

## **Graphs With Small Intersection Dimension**

**STUDENTS** Patrick M Lillis

**ADVISORS** R Sritharan

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Computer Science, Poster - Honors Thesis

Graph Theory is a field concerned with abstract representations of data and data interactions. We study several classes of graphs and prove ways of representing such graphs as geometric shapes, namely  $k$ -dimensional axis-parallel boxes. This type of representation (called boxicity) is a notion that finds uses in social networks, ecology and operations research.

## **Peremptory Challenges: The History and its Effect on Legal Professionals in Montgomery County, Ohio**

**STUDENTS** Whitney M Crim

**ADVISORS** Arthur J Jipson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Criminal Justice Program, Poster - Honors Thesis

The jury system has been the center of our judicial system since the Bill of Rights guaranteed the right to a jury in 1791. An essential component of the jury system is the selection process of jurors. During jury selection, attorneys for each side can use both peremptory challenges and challenges for cause to remove jurors from the pool. Challenges for cause allow for jurors to be removed upon the establishment of a reason for the removal, such as inability to analyze the information due to mental defect. However, the peremptory challenge requires no stated legal reasoning for the removal. As times have changed it has become necessary for laws to be enacted to regulate the peremptory challenge. This prevents jurors from being removed solely for discriminatory or problematic reasons. This thesis project will explore those changes as well as explain how those changes affect attorneys and judges in Montgomery County, Ohio.

## **The State of Digital Production within International Educational Publishing: Obstacles, Innovations, and Possible Solutions**

**STUDENTS** Kristina L Demichele

**ADVISORS** Patrick Thomas

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

English, Poster - Honors Thesis

E-books are becoming increasingly popular in the United States with the constant creation of new technologies and innovative business plans. However, very little research has been done on how the international publishing sector is dealing with the transition to digital production. My honors thesis is a case study of Sonrisa Publishing, a bilingual educational publisher in Madrid, Spain. Specifically, I observed and interviewed publishing professionals during my editorial internship about how they are handling the transition to electronic publishing. My thesis identi-

fies five categories of obstacles that Sonrisa Publishing faces in the transition to digital production: systemic, technical, personnel, cultural, and financial obstacles. From the investigation of these obstacles I have developed strategies for how Sonrisa Publishing should move forward with their digital strategy.

## **Servant Leadership In Action: Connecting with Community as a Graduate Community Fellow**

**STUDENTS** Kristen N. Hammaker

**ADVISORS** Richard T Ferguson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Fitz Center for Leadership in Community, Poster - Graduate Research

A graduate student in the School Counseling program reflects on her past two years of assistantship work with the Fitz Center for Leadership in Community. The Fitz Center offers a variety of assistantships and a program called the Graduate Community Fellows. As a participant in this program, Kristen worked at Ruskin Elementary School, tutoring Hispanic students there and helping children overcome language barriers by using her professional Spanish fluency. This experience has been life-changing and also challenging, teaching her about school dynamics that relate directly to her future career as a School Counselor. The poster will educate an audience about the difficulties and blessings in working in an urban school and offer suggestions for how schools can best utilize their resources.

## **Graduate Community Fellowship at Daybreak**

**STUDENTS** Haylee Deluca

**ADVISORS** Richard T Ferguson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Fitz Center for Leadership in Community, Poster - Graduate Research

The Fitz Center for Leadership in Community maintains partnerships with urban neighborhoods and supports students as they engage in service learning opportunities. Among the Fitz Center's many community leadership programs, graduate community fellows work with nonprofit organizations in the Dayton community. I have been working with Daybreak, an emergency youth shelter and transitional living program, while pursuing my master's degree in psychology. At Daybreak, one of my educational activities is to work directly with youth by managing the token economy. We use "Daybreak Dollars," which are designed to encourage productive activity, such as employment search and school attendance, through positive reinforcement. I have also collected data for the outcomes team that evaluates Daybreak's programming. The ongoing data analysis is investigating changes in income, education status, depression, and anxiety of youth throughout the course of their involvement with Daybreak. Further, I have case-managed youth in the program to develop skills on budgeting, time management, and other life skills. The experience with the Fitz Center and Daybreak has not only given me a unique opportunity to work with at-risk youth, but has informed my own research interests and graduate study.

## **Using the SLOSH model to predict flood hazard areas along the New Jersey coast: both present and future risks as sea levels rise**

**STUDENTS** Ellen L Comes

**ADVISORS** Shuang-Ye Wu

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Geology, Poster - Capstone Project

The ability to predict where flooding will occur during different intensity hurricanes is an essential tool that could save many lives; such information would allow populations in the most critical areas to be evacuated first. During Hurricane Sandy, New Jersey was one of the hardest hit states as it was right in the storm's path as it made landfall. Should New Jersey find itself in the path of another hurricane in the future, the state would benefit to be aware of which coastal areas will flood and thus should evacuate first. Furthermore, as climate change affects the sea levels, an interesting predictor can be used to determine how the flooding of coastal New Jersey will change during hurricanes as sea levels rise. This information from analysis could be used for determining suitable locations for future development project sites and how many more people will be affected by flooding caused by hurricanes. The Sea, Lake and Overland Surges from Hurricanes (SLOSH) model was developed by the National Weather Service to estimate storm surge heights. The Delaware Bay SLOSH model basin will be overlaid over three coastal counties of southern

## COLLEGE OF ARTS & SCIENCES

New Jersey, including Cape May County. The flood risk areas are the areas that have an elevation below the theoretical surge height provided by the model. A variety of hurricane intensities will be used to highlight high-risk areas within the county. Once these high-risk areas are established, recent US census data will be used to analyze the socio-economic impacts of the flood areas to answer the question: how many people will be affected? Furthermore, by taking into consideration the rise in sea level that is likely to occur, how will these high-risk flood areas change and who will be affected?

### Climate-Glacier Relationship of Retreating Alaskan Glaciers

**STUDENTS** Elliott M Mazur

**ADVISORS** Umesh K Haritashya

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Geology, Poster - Course Project, 13 SP GEO 477 H1

Portage, Whittier, Eklutna, as well as many other well-known 'tourism glaciers' in the vicinity of Anchorage, Alaska are known to have retreated in the past 20 years. This begs the question, 'what of the other lesser-known glaciers? Do they follow the same patterns and minimal glacier models?' Glaciers such as Byron, Leonard, Matanuska, Raven and Spencer may fit a minimal model. Information on Byron and Leonard is sparse, as both have become hanging glaciers. Other glaciers, such as Raven, are small enough to be deemed insignificant, yet may have information to give. Consequently our objective is to study at least five Alaskan glaciers and determine wide-ranging variability to changing regional climate. To do this we obtained field geo-location data and characterized glaciers based on the satellite imagery and climate reevaluation. Our results show that the glaciers in the region are retreating irrespective of their aspects, location and altitudinal variability. Moreover, our presentation establishes the strong climate-glacier relationship and defines retreating snowline patterns over the last few decades.

### Linguistic Factors Affecting the Social Status of the Hispanic Immigrant Population in Dayton, OH

**STUDENTS** Alexandra M VanLoon

**ADVISORS** Laura Villa

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Languages, Poster - Honors Thesis

Because the recession has struck the city with such vigor, the Dayton government has adopted the Welcome Dayton Plan to inspire immigrants remain in the indebted city in hopes their efforts would augment the economy. Among its many proposals to help assimilation, Welcome Dayton plans to endorse classes that teach English to the immigrants to promote linguistic commonality. My study explores to what extent knowledge of English is a significant factor in the socioeconomic success among Spanish-speaking immigrants in Dayton. Using a sociolinguistic methodology, based on surveys and interviews, I will analyze how the social status of my informants correlates with their levels of English. In the Berry Summer Thesis Institute, I familiarized with the most relevant bibliography for my study, learned about the Hispanic community in Dayton, contacted organizations committed to helping Latinos, and finally, created the survey and interview to be used in the next stages of my investigation. More recently, I have administered my survey and begun synthesizing my information into a formal analysis. My research will benefit the Dayton Hispanic community in that it will identify the dominant linguistic factors that contribute to the definition of their social status. This information will empower the Hispanics with the knowledge of what linguistically hinders them as well as offer the community tools to better integrate them, which is the overall goal of the newly adopted Welcome Dayton Plan.

### Generalized Multi-latin Squares

**STUDENTS** Lydia R Kindelin

**ADVISORS** Atif A Abueida

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mathematics, Poster - Honors Thesis

The research explores properties of generalized multi-latin squares and proposes ways to construct them. Much like a Sudoku puzzle, generalized multi-latin squares have parameters restricting the symbols in an array. A  $(n, t, m, p, q)$ -generalized multi-latin square is an array consisting of  $n$  rows and  $n$  columns, where each cell is filled with  $m$  symbols from a collection consisting of  $t$  different symbols, any symbol appears in each row

and in each column  $p$  times, and any pair of different symbols occur together  $q$  times. Understanding trivial examples, the properties, and the math behind the problem reveals multiple examples and a systematic way to build generalized multi-latin squares.

### **An Aronszajn Tree**

**STUDENTS** Chester E Lian

**ADVISORS** Lynne C Yengulalp

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mathematics, Poster - Honors Thesis

Contrary to the popular belief that “infinity is not a number; it’s a concept,” numbers that are not finite do exist. Mathematicians call them transfinite numbers. Just like ordinary numbers, some transfinite numbers are larger than others. This can be thought of as there being different levels of infinity, where some infinities are “more infinite” than others. If we draw a family tree in which every generation has finitely many offspring, and every chain of descendants is finite, then it is clear that we cannot have infinitely many family members. In the realm of the transfinite, things are not as intuitive: If we draw a family tree in which every generation has offspring at a certain level of infinity, and every chain of descendants is at that same level of infinity, it is possible (though not necessary) that the total number of family members is at a higher level of infinity.

### **Exploring the Sinc-Collocation Method for Solving the Integro-Differential Equation**

**STUDENTS** Han Li

**ADVISORS** Muhammad Usman

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mathematics, Poster - Course Project, 13 SP MTH 556 01

In this project we study the Sinc approximation method to solve a family of integral differential equations. First we will apply the Sinc-collocation method to solve the second order Fredholm integro-differential equation. Numerical results and examples demonstrate the reliability and efficiency of this method. Secondly, various types of integro-differential equations are solved by Sinc-collocation technique and the numerical results are compared, to explore the stability of this method.

### **Numerical solution of the KdV equation with periodic boundary conditions using the sinc-collocation method**

**STUDENTS** Nicholas D. Haynes

**ADVISORS** Muhammad Usman

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mathematics, Poster - Graduate Research

We demonstrate numerically the eventual time-periodicity of the solutions of the Korteweg-de Vries equation with periodic forcing at the boundary using the sinc-collocation method. This method approximates the space dimension of the solution with a cardinal expansion of sinc functions, thus allowing the avoidance of a costly finite difference grid for a third-order boundary value problem. The first-order time derivative is approximated with a weighted finite difference method. The sinc-collocation method was found to be more robust and more efficient than other numerical schemes when applied to this problem.

### **Simulation of Nonlinear Waves Using Sinc Collocation-Interpolation**

**STUDENTS** Eric A Gerwin, Jessica E Steve

**ADVISORS** Muhammad Usman

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mathematics, Poster - Course Project, 13 SP MTH 556 01

In this project we explore the Sinc collocation method to solve an initial and boundary value problem of nonlinear wave equation. The Sinc collocation method is based upon interpolation technique, by discretizing the function and its spatial derivatives using linear combination of translated Sinc functions. Our project will focus on multiple boundary conditions such as the well known Dirichlet and Neumann conditions. Our project will also focus on two established nonlinear partial differential equations: the Sine-Gordon equation and the Korteweg-de Vries equation.

## COLLEGE OF ARTS & SCIENCES

### The Kou Jump-Diffusion Model for Option Pricing

**STUDENTS** Gracie Fasano, Sophia S Munyemana

**ADVISORS** Ruihua Liu

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mathematics, Poster - Graduate Research

The Black-Scholes based model has been a useful tool for option pricing in the stock market. Yet there are two phenomena the leptokurtic feature and the implied volatility curve which naturally occur in asset pricing. The model proposed by S. G. Kou not only offers an explanation of the leptokurtic feature and the volatility smile, but also leads to analytical solutions to many option pricing problems such as European call and put options. Our research focuses mainly on the analytical solution of the Kou model in MATLAB for the European option using what Kou defines as the Hh function. This function can be viewed as a generalization of the cumulative normal distribution function. More precisely the left tail of the Hh function has a polynomial growth rate, and the right tail has an exponential decay. We also evaluate the integral Kou defines as  $I_n$  which is important in option pricing to determine the arbitrary constants  $\alpha$ ,  $\lambda$  and  $\beta$ . For our research, we determine these constants in a MATLAB code and then use them in Kou's Upsilon function to determine the value of the European option.

### Detecting Changes in the Earth's Magnetic Field

**STUDENTS** Andrew T McQuillen

**ADVISORS** Mohamed Ahoujja, Rex L Berney

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Physics, Poster - Course Project, 13 SP PHY 495 P1

This year the Earth is being subjected to a high amount of solar activity due to the sunspot cycle being close to its maximum. This has an effect on the Earth's magnetic field. While small, the magnetic flux was able to be detected using a magnetometer built from a pair of magnets and a mirror suspended from a nylon thread. A change in the magnetic field of the Earth causes a slight rotation of the magnet which can be detected using laser light reflected off the mirror into a detector.

### The Glass Walls Project: Visualizing Laboratories to Facilitate Collaboration

**STUDENTS** William J Sember

**ADVISORS** Peter E Powers

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Physics, Poster - Independent Research

The Glass Walls Project is a computer-based, 3D visualization of laboratories. It allows researchers to create basic 3D visualizations of their labs--including media content such as pictures--to communicate the labs' equipment and current projects. This demonstration is a prototype; the full project would include web-hosting for easy data transfer.

### Quantum Dot Formation Using Nano-patterned Planar InAs

**STUDENTS** Daniel R Esposito

**ADVISORS** Said Elhamri

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Physics, Poster - Independent Research

Quantum Dot Formation Using Nano-patterned Planar InAs. D. R. Esposito, S. Elhamri. Department of Physics, University of Dayton, Dayton, Ohio 45469. G. Eyink, J. Shoaf, V. Hart, L. Grazulis, K. Mahalingam, J. Hoelscher, M. Twyman, D. Tomich. Air Force Research Laboratory, Materials & Manufacturing Directorate, Wright-Patterson Air Force Base, Ohio 45433, USA. Abstract: We are working to control the size and uniformity of quantum dots for applications requiring the fine tuning of their energy band gaps. The critical quantum dot nuclei size is determined through a balance of surface and bulk free energies. These quantum dot nuclei are formed randomly over the surface in space and time. We are developing a process which uses planar InAs and nano-patterning to fabricate quantum dots on the surface. By nano-patterning samples, we can bypass the nucleation process and form volumes of material which are larger than the critical nuclei size. Subsequent annealing under high arsenic overpressure will ideally allow the material to reorganize into an equilibrium geometry without dislocations. Quantum dot formation under this method is primarily driven by the reduction of dislocations which contribute to the strain of the material. Our experiments have shown that quantum dots tend to form

in the squares of the patterned grid as expected. While they tend to be more uniform than randomly nucleated dots, the annealing process also subjects them to coarsening and evaporation. We are now trying to hydrogen radical clean and anneal the samples at lower temperatures in order to reduce the effects of these processes, which increase size variation and decrease total volume respectively.

## **Infrared Transmission Spectroscopy of CVD graphene on Si**

**STUDENTS** Thaddeus J Asel

**ADVISORS** Said Elhamri, Shin Mou, Gail J. Brown, and W. C. Mitchel

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Physics, Poster - Independent Research

We report transmission spectroscopy results from the mid- to far-infrared on graphene, grown by chemical vapor deposition (CVD) on Cu. Silicon is our choice of substrate (thickness ~ 500 micro meters) because it has non-zero transmission extending out to about 100cm<sup>-1</sup>. As a result, continuous spectra (without blocking bands) in the range of 400 to 4000 cm<sup>-1</sup> are obtained and they are modeled by free carrier absorption (Drude model) and interband transitions (considering the Pauli blocking.) From these, the carrier density, carrier mobility, sheet resistivity, intraband scattering rate, and graphene layer number can be inferred.

## **Sample Preparation Techniques for Transmission Electron Microscopy for Erbium Arsenide Metal Nano-Particles and Indium Arsenide Quantum Dot Structures, InAs/InGaAsSb Superlattice Structures, and Iron Oxides**

**STUDENTS** Andrew J Aronow

**ADVISORS** Said Elhamri

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Physics, Poster - Independent Research

Sample Preparation Techniques for Transmission Electron Microscopy for Erbium Arsenide Metal Nano-Particles and Indium Arsenide Quantum Dot Structures, InAs/InGaAsSb Superlattice Structures, and Iron Oxides; A. J. Aronow, S. Elhamri, University of Dayton, Physics Department, Dayton, OH. K. Mahalingam, K. G. Eyink, Air Force Research Laboratory, Materials & Manufacturing Directorate, Wright-Patterson AFB, OH. The purpose of my research at Wright-Patterson Air Force Base is to determine the best procedures of sample preparation for Transmission Electron Microscopy (TEM) in order to discover the structural properties of grown materials including Erbium Arsenide (ErAs) metal nano-particles and Indium Arsenide (InAs) Quantum Dot structures, InAs/InGaAsSb superlattice structures, and iron oxides. Viewing a material's crystalline structure with TEM requires a very thin (~100nm) film of the sample and obtaining this can be a highly complex task. Different materials/analyses require different procedures. My work has led to effective processes for the materials listed above. Ion beam milling was used to prepare both the cross-sectional and plane-view ErAs metal nano-particles and InAs Quantum Dot material, and Focused Ion Beam (FIB) Milling was used to prepare both superlattice and oxide materials. Reiteration has proved these methods to be highly effective at producing excellent TEM films.

## **Competing Responsibly: Are Businesses Appropriately Balancing the Motive of Profit with the Social Responsibility of Upholding Human Rights?**

**STUDENTS** Elizabeth A Mitchell

**ADVISORS** Mark Ensalaco

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Political Science, Poster - Honors Thesis

Corporations are in constant competition with one another in order to expand revenue and survive in this modern economy, however, this often has a very negative impact on the rights of the individual and the rights of the worker. Those at the top are too quickly willing to exploit those at the bottom in order to drive competition and profits. This leads to both an increase in human rights abuses and a loss of corporate social responsibility. Corporate social responsibility is the duty of corporations to respect the individual, workers, families, and communities in their business practices. I examine how corporations are addressing social responsibility and how they have or have not progressed within the last dozen years in regards to their business practices. I also examine how the international community has reacted to bad business practices and what effects these reactions have on corporate responsibility.

## **Spontaneous Pneumothorax**

**STUDENTS** Angela M Sibilica

**ADVISORS** Kathleen C Scheltens

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Pre-Med Program, Poster - Independent Research

Pneumothorax is a condition where air escapes from the lungs and it collapses. Air accumulates between the lungs and the chest cavity causing partial or full collapse of the lung. These rare occurrences can be caused by a traumatic incident, or can be spontaneous and often result from a ruptured bleb (small air sac). This disease is most common in tall, thin teen-aged males and is increasingly likely to occur with smoking as well as asthma, T.B., C.F., whooping cough, and COPD. Working with a pediatric surgeon at Akron Children's Hospital, I reviewed patients' charts to study past cases of this disease. The purpose of my studies are to find the best method to treat patients. I compared the results of different treatments including: inserting a chest tube, open thoracotomy, or a video assisted thoracoscopy. Often a blebectomy was needed as well as chemical or mechanical pleurodesis methods. The mystery is why and when this is happening. Are blebs usually present and can be detected? Mainly, what is the best way to prevent re-occurrences?

## **The Role of Visual and Proprioceptive Limb Information in Affordance Judgments and Action Capabilities**

**STUDENTS** Adam Barnas, Jessica L James, Lindsey C Meter, Jeremy T Schwob

**ADVISORS** Benjamin R Kunz

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

In the mirror illusion, visual information from a mirror reflection of one hand influences the perceived location of the other hand. Holmes, Crozier, and Spence (2004) demonstrated this visual capture effect on a spatial localization task in which visual information was found to influence reaching movements toward a target when the seen (in the mirror) and felt (proprioception) position of the hand did not match. Furthermore, past results suggest that visual information about hand position overrides the proprioceptive information when the hands were used to indicate perceived object length. The conflict between vision and proprioceptive information of limb location was further examined in three experiments by means of a task in which participants adjusted the physical distance of their unseen hand in the horizontal plane and sagittal plane during judgments of affordance. In each trial, participants viewed their visible hand and its reflection in a mirror, while their unseen hand was positioned at several positions located behind the mirror. At all times, the visible hand was positioned fifteen centimeters in front of the mirror, and as such, the unseen hand always appeared to be thirty centimeters from the visible hand regardless of its actual position. While viewing their visible hand and its reflection, participants performed simultaneous finger movements with both hands to maximize the visual capture illusion. In Experiments 1 and 2, participants then viewed a series of tubes of varying lengths presented in ascending and descending order and called out the point at which they were no longer able to catch the tube given the current distance between their hands, whether felt or seen. In Experiment 3, participants viewed an object presented at different locations in the sagittal plane and repositioned their unseen hand such that it was underneath the object. Future experiments should examine other action capabilities.

## **The Effect of Graphic Quality in Virtual Environments on the Perception of Egocentric and Exocentric Distances**

**STUDENTS** Adam Barnas, Kar Yen Chai, Ryan P Robie

**ADVISORS** Benjamin R Kunz

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

Virtual realities (VRs), also known as virtual environments, have been used to simulate physical presence in real environments (i.e., simulations for pilot training) as well as imaginary places (i.e., videogames). Mostly constructed as visual experiences, innovations in VR technologies now include additional sensory information, such as sound and touch, and have allowed for collaborations across diverse fields, including skills training, ergonomics, therapeutic programs, perception and cognitive psychology. Virtual realities in a therapeutic role have been applied to numerous forms of exposure therapy to address phobias such as claustrophobia, agoraphobia, and acrophobia (fear of heights), as well as post-traumatic stress disorder (PTSD) and anxiety disorders. Virtual reality methodology has also been used in physical therapy, occupational therapy, and physi-



cal rehabilitation. Moreover, research has been comprehensive in addressing the participant's perceptual reaction to the VR environment and has addressed the effect of the quality of the graphics of the VR environment on judging spatial egocentric distances (i.e., distances between the participant's virtual self and objects in the VR environment) and exocentric distances (i.e., distances between various objects in the VR environment). For example, participants in head-mounted-display-(HMD-)based immersive VR environments consistently underestimated egocentric distances walked to previously viewed targets in both low- and high-quality VR environments compared to estimates done in real-world environments. Interestingly, participants were more accurate in verbally reporting the distances in high-quality VR environments (Kunz et al., 2009). This dissociation between magnitude estimates of target distance and action-based indicators of perceived distance (i.e., walking to previously-viewed objects) will be further explored in the present research by using other kinds of distance estimates and judgments of egocentric distances, as well as exocentric distances. This research has implications in the use of distance perception strategies in the context of VR environments.

### **The Effect of Context Upon the Perception of Egocentric and Exocentric Distances Using a Walkable Human Muller-Lyer Illusion**

**STUDENTS** Adam Barnas, Ellen J Hart, Natalya N Lynn, Lauren M Pytel

**ADVISORS** Benjamin R Kunz

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

The Muller-Lyer illusion is a geometric illusion in which lines of the same length are perceived to be different because of forms (e.g. 'fins') at the ends. This influence of context upon the perception of length is well-established for 2-D illusions but has also been demonstrated in larger-scale, three-dimensional spatial tasks (Wraga, Creem and Proffitt, 2000). Across three experiments, we utilized a walkable variation of the Muller-Lyer illusion to further examine the effect of context upon the perception of egocentric and exocentric distances. Whereas the traditional Muller-Lyer illusion utilizes shapes to manipulate the context of the line, we employed human forms to manipulate context (i.e., facing direction of human targets). We predicted that the facing direction of the human target would influence magnitude estimates of target distance, similar to the way the placement of geometric forms at the ends of lines influence judgments of line length. However, we also predicted that action-based indicators of perceived distance (e.g. walking to the previously-viewed target person without vision) would not be influenced by the contextual information provided by the human target's facing direction. In Experiments 1 and 2, which are replications and extensions of previous research, participants viewed one human target that was facing toward or away and then, without vision, walked a distance that matched the perceived distance to the target person. Results from these experiments suggest that action-based indicators of perceived distance are immune to contextual influences of human target facing direction. In Experiment 3, participants will view two human targets that are either facing toward or away from each other, and will verbally estimate the distance between the two human targets in conjunction to walking the perceived distance between the target persons. The results from these experiments will speak to the role of contextual information in spatial perception.

### **Decoupling the Biomechanics of Locomotion and the Direction of Spatial Updating During Blind-walking Tasks**

**STUDENTS** Adam Barnas, Ellen J Hart, Natalya N Lynn, Lauren M Pytel

**ADVISORS** Benjamin R Kunz

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

Spatial updating, or the process of keeping track of objects' locations relative to one's spatial position while moving is critical to a variety of navigation tasks. Although updating is likely to occur automatically during sighted walking, walking without vision requires imagined updating of spatial relationships that change concurrently with movement. In particular, dynamic spatial updating likely underlies accurate performance when blind-walking to previously seen targets, a task commonly used to assess distance perception (Rieser et al., 1990). Studies of imagined walking suggest that the biomechanical information from locomotion influences the accuracy of spatial updating and blind-walking (Kunz et al., 2009). As replications and extensions of previous research, we further investigated the role of biomechanical information in spatial updating by manipulating the biomechanics of locomotion and the direction of spatial updating during blind walking. In Experiment 1, participants viewed targets that were positioned directly in front of or behind them. Participants were instructed to walk without vision to the targets while spatially updating their position in the environment as they walked either forward to targets in front of them or backward to targets behind them. Consistent with previous results, participants were generally accurate in both forward and backward walking, suggesting that participants spatially

update in a manner consistent with their direction of movement, even for backward locomotion. Experiments 2 and 3 attempt to decouple the biomechanics of walking and the direction of spatial updating. Between these experiments, participants will view targets located directly in front of them at different distance ranges. Participants will be instructed to either walk forward without vision to the targets while spatially updating or backward away from the targets while, at the same time, imagining themselves walking forward to the targets and spatially updating in a manner consistent with the imagined forward walking.

## **The Influence of Personal Height and Eye Level on the Perception of Object Dimensions and Affordance Judgments**

**STUDENTS** Adam Barnas, Kevin Longacre

**ADVISORS** Benjamin R Kunz

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

The embodied cognition approach to perception suggests that spatial perception involves the integration of visual cues and body-based cues when perceiving capabilities for action, or affordances, in extrapersonal space. For example, behavioral studies suggest that altering the affordances of the observer (e.g., by giving the participant a tool to extend reach) alters the perceived body size (peripersonal space) and perceived dimensions of the environment (extrapersonal space), such as the perceived distance to a target (Reed & Farah, 1995). Eye height is also likely to play a role in judging object dimensions, the perception of affordances, and other action capabilities (Warren & Whang, 1987). Studies recording participants' performances walking under a series of obstacles show that people require a larger margin of safety when wearing an apparatus on their head or feet that increases their physical height because of the unfamiliarity of the adopted body dimensions. Across three experiments, we will utilize several measures to examine the effect of body height and eye height on perceived object height and perceived passability through a vertical aperture in extrapersonal space. To this end, we hypothesize that body height and eye level manipulations will ultimately alter the perception of the observer's environment, such as reporting smaller object sizes and more difficult passability. All three experiments require participants to match the height of several vertical apertures and report whether they could walk through the apertures without ducking or touching the top. Experiment 1 will serve as a control since body height and eye level will not be manipulated. Experiment 2 will manipulate body height by using rods of varying lengths and Experiment 3 will manipulate eye level by having participants stand on platforms of varying heights. These studies will demonstrate the importance of body dimensions in perceiving external space and affordances with vertical apertures.

## **Reconciling Autonomy and Self-Enhancement: Is Consistency the Key to Well-Being?**

**STUDENTS** Kaitlin E Boyd, Michaela M Eames, Katharine M Ellis, Morgan A Hale, Bridget Petersen Lynch

**ADVISORS** Erin O'Mara

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

This research explores the relation between self-enhancement motivation (i.e., the motive to have and maintain positive feelings about the self) and autonomy (i.e., the motive to feel in charge of one's own life). Extensive research shows that people are motivated to feel positively about the self. However, a small set of studies noted that people who feel in charge of their lives and decisions (i.e., high in autonomy) are not motivated to have a positive sense of self in the same way as their peers. In Study 1, 338 participants completed a series of self-report measures to assess recently identified self-enhancement strategies and levels of autonomy. Using multiple regression, Study 1 provided evidence that approach oriented self-enhancement is consistent with autonomy. Study 1 supports the universality of self-enhancement by identifying strategies used by autonomous individuals to self-enhance. Based on these results, Study 2 experimentally examined the association between self-enhancement and levels of autonomy. In Study 2, 105 participants completed an impossible maze task, were provided with false negative feedback, and were randomly assigned to one of three possible coping strategies (two manipulated to encourage self-enhancement or a control condition). After participating in the coping strategy (or control), participants completed a series of self-report well-being measures. Data from Study 2 will be analyzed using multiple regression. It is expected that people will have greater psychological well-being when they self-enhance in a way consistent with their levels of autonomy. Study 2 will provide evidence for the benefits of specific strategies of self-enhancement based on level of autonomy.

**Is Chivalry Really Dead? It Depends on When You Ask: Women's Reception of Benevolent Sexism Changes Across the Menstrual Cycle**

**STUDENTS** Erin A Brady, Christina A Indriolo, Caitlin M Lenze, Bridget K O'Mera, Carrie R Underwood

**ADVISORS** Erin O'Mara

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

This current research explores whether benevolent sexism can serve as an evolutionarily advantageous strategy for females to attract mates. Benevolent sexism refers to a type of sexism (i.e. gender-based discrimination) that is considered to be positive in nature due to its focus on protecting and placing women 'on a pedestal.' However, benevolent sexism is damaging to women on a societal level because it reiterates masculine dominance. Research shows that men endorse benevolent sexism because it confirms existing social hierarchies. While women do not support hostile or aggressive forms of sexism that are overtly disparaging, women do endorse benevolent sexism because they believe it provides interpersonal benefits, although it is indeed marginalizing. The present study seeks to examine whether women endorse benevolent sexism during times of peak ovulation as a way to attract a potential mate. Past research has shown that when women are ovulating, they alter their behavior to conform and appeal to men's expectations. Research has also shown that, when ovulating, women spend more time altering their appearance to ostensibly attract a potential mate. In the present study, ovulation and endorsement of benevolent sexism will be measured to determine if benevolent sexism is a behavioral modification women adopt to attract a mate. The amount of time spent on appearance will be measured to determine if appearance mediates the relation between ovulation and benevolent sexism. The anticipated results predict that, in an effort to attract a mate, women will spend more time altering their appearance to look more pleasing to a mate when they are most fertile, and this will lead to an increase in endorsement of benevolent sexism.

**The influence of self-esteem level on interpretation of ambiguous stimuli after a rejection experience**

**STUDENTS** Nicholette T Smith

**ADVISORS** Erin O'Mara

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Honors Thesis

How do rejection experiences influence the interpretation of messages in people with high self-esteem versus people with low self-esteem? The present study examined the relationship between self-esteem, rejection experiences, and whether self-esteem levels buffer against lasting mental anguish caused by rejection. It was hypothesized that people with low self-esteem who have experienced a rejection experience will interpret an ambiguous message more negatively and will be more likely to interpret the message as threatening, whereas people with high self-esteem who have experienced a rejection experience will interpret an ambiguous message more positively and will be less likely to interpret the message as threatening. First, participants completed the Rosenberg Self-Esteem Scale (Rosenberg, 1965), the Rejection Sensitivity Questionnaire (Downey & Feldman, 1996), and the Narcissistic Personality Inventory (Raskin & Terry, 1988) to provide baseline measures. Next, each participant was randomly assigned to one of three tasks: writing about a past experience of rejection (rejection condition), writing about a past experience of acceptance (acceptance condition), or ordering a list of social topics by their preference to write about each one (control condition). Finally, participants read emotionally positive, negative, and neutral/ambiguous emails, ostensibly written by another person, and evaluated whether they perceived the text to be emotionally positive or negative, as well as their perceptions of the writer. These emails were written to imply that the sender and recipient had gone out to dinner together and the sender responded in each email differently. Results from data analysis are forthcoming. It is important to find connections between variables like self-esteem and rejection sensitivity and determine under which circumstances people carry rejection experiences into other aspects of life to predict subsequent influence of rejection.

**Integrating Heart Rate and Eye Movement Measures as a Possible Robust Indicator of Workload in an Aviation Simulation Task**

**STUDENTS** Kylie M Bushroe

**ADVISORS** F Thomas Eggemeier

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Honors Thesis

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Flight missions and remotely piloted aircraft operations can be taxing on pilots and operators and sustained workload may lead to performance decrements. One possibility to prevent this decline is to monitor cognitive workload to provide information that can be used to proactively enable real-time assistance to pilots and/or operators before performance is degraded. Heart rate and eye measures are two psychophysiological measurements that have been demonstrated as sensitive indicators of an operator's functional state, specifically cognitive workload, during tasks of varying levels of difficulty. These metrics are typically studied separately, but may be more robust indicators if integrated. The current study examined the relationship between heart rate and eye movements in response to varying levels of task difficulty and automation reliability to determine if integrating these metrics added any value to discerning workload. The study simultaneously collected electrocardiogram (ECG) and eye-tracking data from ten participants as they performed an aviation simulation task. Difficulty levels of three subtasks were manipulated in addition to the automation reliability of a fourth subtask. Performance data were analyzed for changes based on task difficulty and automation reliability; performance changes were statistically significant as workload increased and automation reliability varied. Heart rate and specific eye measures (e.g., fixation duration, pupil size, and blink rate) will be analyzed for changes reflecting the workload and automation.

### **Parental Support and Anxiety among College Students: Differences by Sex-Specific Dyads**

**STUDENTS** Hanna M Burke, Jeannette M Iskander

**ADVISORS** Jackson A Goodnight

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

The present study investigated the possibility that sons and daughters are differentially responsive to the effects of maternal versus paternal support on anxiety. Previous research suggests that parental support reduces a child's susceptibility to developing anxiety outcomes, and that, generally, differences exist among parent-child dyads (father-daughter; mother-daughter; father-son; and mother-son) such that both sons and daughters prefer mothers, but sons also look to fathers for support. However, it is unclear whether maternal and paternal support is differentially associated with offspring adjustment. Based on previous findings regarding differences in sons' and daughters' preferences for maternal versus paternal social support, it was hypothesized that maternal support would be negatively associated with offspring anxiety, regardless of offspring sex, and that paternal support would be more strongly negatively associated with anxiety for male than for female offspring. Data from 216 college students who completed the Inventory of Parent and Peer Attachment and the Penn State Worry Questionnaire were analyzed. Moderating effects of participant sex on the association between parental support and anxiety levels were examined using path analysis. Results revealed an interaction of participant sex with paternal support, but not with maternal support. Specifically, a significant negative association between paternal communication and anxiety outcomes was found for males (Beta = -0.37,  $p < .0001$ ), but not females (Beta = -0.03,  $p = .82$ ). In contrast, a significant positive association was found between maternal communication and anxiety outcomes, regardless of participant sex (males, Beta = 0.23,  $p = 0.01$ ; females, Beta = 0.24,  $p = 0.008$ ). The current findings suggest that male and female offspring may vary in their responsiveness to paternal versus maternal support. However, longitudinal research is needed to determine the directionality of the association between parental support and offspring anxiety.

### **Delinquent Peer Relationships as a Mediator of the Differential Effects of Social Withdrawal and Behavioral Inhibition on Delinquency**

**STUDENTS** Jeannette M Iskander

**ADVISORS** Jackson A Goodnight

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

Previous research has shown that the anxiety dispositions of behavioral inhibition and social withdrawal are differentially associated with delinquency in adolescence, such that behavioral inhibition decreases risk and social withdrawal increases risk for delinquency. However, it remains unclear why these highly similar dispositional characteristics would have opposite effects on risk for delinquency. The present study tested peer delinquency as a possible mediator of the differential effects of social withdrawal and behavioral inhibition on delinquency. The current study hypothesized that social withdrawal would be positively associated with peer and youth delinquency; that behavioral inhibition would be negatively associated with peer and youth delinquency; and that the effects of behavioral inhibition and social withdrawal on youth delinquency would be mediated by peer delinquency. The current study analyzed data from a longitudinal study of social development. Participants completed measures of behavioral inhibition and social withdrawal at age 12, peer delinquency at age 14, and youth delinquency at age 16. Results from path analysis

revealed that social withdrawal was significantly negatively associated with youth delinquency and peer delinquency. Additionally, peer delinquency was significantly positively associated with youth delinquency. Finally, peer delinquency significantly mediated the association between social withdrawal and youth delinquency, such that the negative association between social withdrawal and youth delinquency was accounted for by the negative association between social withdrawal and peer delinquency. All other hypothesized associations were non-significant. These results are inconsistent with findings from past research and suggest that further research is needed to understand how behavioral inhibition and social withdrawal are related to delinquency.

## **Child and Family Influences on Parent's Utilization of Children's Mental Health Services**

**STUDENTS** Emily Marie Wilhelm

**ADVISORS** Jackson A Goodnight

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Honors Thesis

Approximately 20% of children in the United States develop some kind of behavioral or psychological problem that requires treatment, but the majority of these children do not receive mental health services. This study examines the relationships between various child and family characteristics and the likelihood that a parent will seek professional mental health services for their child. Previous studies have found that many factors, including family income, child gender, and parent education level are associated with parents' utilization of children's mental health service. However, these studies have not tested whether these factors are associated with service utilization over-and-above the influence of symptom severity. The purpose of the study is to identify factors beyond symptom severity that are associated with a parent's decision to seek services for their child. The factors being investigated are child age, gender, family income, family stress, parental separation, and severity and type of problem exhibited by the child. The study utilizes previously collected longitudinal data from a community study of child development. Findings from this research will improve understanding of influences on utilization of mental health programs or interventions for children.

## **Perfectionism: Good, Bad, or Growth?**

**STUDENTS** Elissa A Lauber

**ADVISORS** John J Bauer

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

Perfectionism has been predominantly studied from a clinical perspective, and has only more recently been studied from a normative perspective. Luyck et al. (2008) studied how personality differences in two facets of perfectionism—adaptive (striving for improvement) and maladaptive (striving for perfect performance)—relate to identity formation and well-being. However, no research has tested adaptive and maladaptive perfectionism experimentally to show how these two facets of perfectionism affect task performance, task motivation, and the subjective experience of the task. In the current study, 150 University of Dayton participants were surveyed for personality characteristics relating to perfectionism and motivation and were then randomly assigned to two creativity-task conditions, one eliciting a motivation for adaptive perfectionism and another for maladaptive perfectionism. Results show how adaptive and maladaptive perfectionism influence performance, motivation, and experience and then relative to personality differences in perfectionism and related forms of motivation.

## **Health Belief Model and Risk-Seeking Behavior as Indicators of Chosen Listening Levels of Youth**

**STUDENTS** Frances D Albanese

**ADVISORS** Keri J B Kirschman

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Honors Thesis

Noise-induced hearing loss (NIHL) is the second most common form of hearing loss, affecting millions of Americans. Although there are required noise level regulations set for adults in the workplace, there are no such guidelines set for children, who are also subject to hearing loss, and potentially listening to iPods and MP3 players at harmful volumes. The Health Belief Model (HBM), which helps researchers understand the reasons for harmful behaviors, has been used to predict listening behavior in adults and children. Eighty-four participants aged 9-12 years old from Incarnation Elementary listened to a song on an iPod and answered questions regarding their desire and tendency to take risks and their listening

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habits. They also completed a Listening Habits Questionnaire that related the five subscales of the HBM to their beliefs about NIHL. Actual Chosen Listening Levels (CLLs) were determined from the iPod using a sound-level meter and compared with the Global Risk Taking Assessment and HBM scores. Although the Global Risk Taking Assessment is not a significant indicator of CLLs, the Health Belief Model does significantly predict CLLs. This research helps us understand the potential harm caused by listening at high volumes, as well as possible underlying reasons for this behavior.

### **Momma Knows Best: Consideration of Child Temperament in Parent Prediction of Injury Risk**

**STUDENTS** Emily A Godshall

**ADVISORS** Keri J B Kirschman

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

**Objective:** Unintentional injury is the leading cause of death in children. Parental decisions regarding home safety, such as safety-proofing are central to preventing injuries in preschool-aged children. Parent perceptions of their child's injury risk have been found to be related to home safety practices. It is unclear, however, whether parents consider factors that are related to pediatric injury, such as child temperament (Schwebel & Plumert, 1999), when assessing their child's injury risk. We hypothesized that parents of children lower in inhibitory control and parents of children higher in impulsivity would predict more frequent engagement with hazardous objects, controlling for age of the child. **Methods:** 89 families with a child aged 3-5 were recruited as part of a larger study on sibling supervision. Parents completed a measure of child temperament and were shown 6 hazards (e.g., a knife) in a simulated home setting and asked to rate the likelihood that their child would engage in hazardous behaviors with the items. **Results:** Stepwise regression analysis revealed a significant relation between inhibitory control and parent predictions ( $r = -.16, p = .007$ ), such that lower levels of inhibitory control were associated with higher parent predictions of child hazardous behaviors. There was not a significant association between impulsivity and parent predictions. **Conclusions:** Parents account for certain aspects of child temperament when making predictions regarding their child's injury risk, but do not appear to consider level of impulsivity. Clinically, parents of children higher in impulsivity may need targeted education to increase awareness of injury risk.

### **Observed Hazard Interactions by Preschool Children and Their Sibling Supervisors**

**STUDENTS** Sarah L. Bidwell, Kelly E Minarchek, Kevin D Shaw

**ADVISORS** Keri J B Kirschman

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

**Observed Hazard Interactions by Preschool Children and Their Sibling Supervisors** Sarah L. Bidwell, Keri J. Brown Kirschman, Kevin D. Shaw, Kelly E. Minarchek, & Cassandra M. Dodds **Objective:** Children are at an increased risk of injury while being supervised by a sibling. The purpose of this study was to detail injury risk behaviors displayed by preschool children and their sibling supervisor in a mock-home environment. **Methods:** As part of a larger study on pediatric injury, 89 children (age 3-5) and their siblings played for 20 minutes in a mock living room that contained 6 home hazards that looked dangerous, but were actually safe. Hazard interactions were recorded; demographic data was collected from parent. **Results:** Children and siblings touched an average of 3.4 (SD = 4.14, Mdn = 2.00) and 2.9 (SD = 3.77, Mdn = 1.00) mock hazards, respectively. Total time with hazards was approximately 40 seconds for both groups. Male and female risk behavior was not significantly different. For younger child, duration of touch differed by hazard type, Wilks' Lambda = .80,  $F(5, 80) = 4.10, p < .01$ , with post-hoc comparisons revealing that children spent the most time with the knife. **Conclusions:** 75% of the preschoolers and their siblings touched at least one potentially unsafe item. Items that could be considered very dangerous were of particular interest to children, and presence of a sibling supervisor alone did not prevent hazard interaction. In fact, frequent engagement with unsafe items by siblings themselves likely encourages injury risk behavior in younger siblings via modeling. Future directions include the identification of factors that may decrease injury risk when children are supervised by older siblings.

### **Perception of Non-physical Abuse in Intimate Partner Relationships**

**STUDENTS** Jessica Peatee, Ellen I Snyder

**ADVISORS** Lee J Dixon

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

The present studies will examine how college-aged students perceive non-physical abuse in intimate partner relationships. The Tip of the Iceberg theory hypothesizes that non-physical abuse varies by increasing degree of severity' verbal, emotional, and psychological' with psychological abuse being the most severe form of non-physical abuse. Study 1 will test for evidence that three degrees of severity are perceived by laypeople to exist within non-physical abuse, and that psychological abuse is perceived as the most severe degree. Participants will read vignettes illustrating non-physically abusive situations between dating couples, and then rate how abusive these situations seem on a Likert-type scale. It is predicted that severity of abusiveness ratings will vary based on the type of non-physical abuse (verbal, emotional, psychological). Study 2 will then use the vignettes from study 1 that were found to have differed in severity to examine if the relationship between the hypothesized degrees of severity and perceived severity ratings of abusiveness is moderated by the target of the non-physical abuse (one's self or an individual in another couple), and if this relationship is then further influenced by the individual's past experience with non-physical abuse. Study 1 data is currently being collected and results from all available data will be presented.

## **A Proposed Study of Online Flirting**

**STUDENTS** Jasmine L. Smith

**ADVISORS** Lee J Dixon

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

Behaviors exhibited while online differ radically from behaviors exhibited while offline (Suler, 2004). Research suggests that this difference in behaviors results from online disinhibition (OD) while engaging in computer-mediated communication (CMC) (Suler, 2004). One way that OD may influence behaviors is through its impact on disinhibited online flirting. Flirting outside of a dyadic romantic relationship was found to have a detrimental impact on romantic relationships (Kalbfleisch, 1993). Due to this finding and the immense use of internet among college students the first goal of this research is to provide a basis of information on the amount of online flirting, how online flirting occurs, and the impact of online flirting among college-age students. The second goal of this research will be to understand participants' perception of how detrimental the impact of online flirting would be on their romantic relationship compared to offline flirting. Based upon previous research on this topic, our main prediction is that online flirting will be perceived to have a lowered level of detriment to a romantic relationship versus offline flirting due to an informal understanding of disinhibited online behavior that results from personal internet use. This study will also be assessing the impact of public versus private online flirting on a romantic relationship. Based upon previous research, we are predicting that public online flirting, such as flirting through a Facebook wall post, will lead to a lower perception of detriment on a romantic relationship than private flirting, through a private message. Overall, this study will attempt to fill the void in research devoted to online behaviors and help in understanding of the effects of online flirting and how it differs in its impact on romantic relationships compared to offline flirting.

## **The Impact of Social Awareness, Empathy, and Confidence on Blindness to Change in Facial Emotions**

**STUDENTS** Adam Barnas, Joseph R Pauszek, Jeremy T Schwob

**ADVISORS** Mark R Brown, Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

This study investigates the phenomenon known as change blindness, or the inability of an observer to detect changes in stimuli, such as variations in facial indications of emotion. Previous studies have shown that gradual changes of facial emotion produce substantive levels of change blindness when observers are instructed to report the changes verbally (David et al., 2006). However, measures of ocular gaze (i.e., visual scan paths, fixation times, and pupil dilations) assessed by eye-tracking equipment, reveal that more attention is focused on features of a face that are thought to be more indicative of a change in emotion (e.g., eyes) than on static non-facial stimuli (Davies & Hoffman, 2003). It has also been noted that observers express high levels of confidence in their ability and accuracy in detecting a change in a stimulus if it were to take place even though they consistently fail to detect changes (Blackmore et al., 1995). The proposed research will utilize videos showing changes in facial emotion and questionnaires to gauge social awareness (cognizance of what is needed by others in a social situation) and empathy (sensitivity to the emotion of others). Based partly on extant results, there are three hypotheses. First, gradual changes in the facial emotion of an actor in a video will attract more gaze and fixation time, as measured by eye-tracking equipment, and be detected more frequently than gradual changes in a neutral stimulus (e.g., changing the color of a shirt). Second, changes in facial emotion will be detected more often by observers who have greater social

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awareness and empathy. Third, observers who are unable to detect changes in facial emotions will express, a priori, more overconfidence in their ability to do so compared to observers who are able to detect changes in facial emotions.

## **Cognitive Appraisals in a Deception Task**

**STUDENTS** Steven A Bare

**ADVISORS** R Matthew Montoya

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Honors Thesis

Cognitive appraisals of threat and challenge, identified and characterized by Blascovich and Mendes (2000), involve whether an individual feels as though he or she is able to overcome a task requiring significant effort. This can be understood as an elaboration of the fight-or-flight response, and as such, can be indicated by physiological responses. This experiment applies this cognitive appraisal paradigm to a deception task, in an attempt to improve on the polygraph test.

## **I Can Tell by Your Smile: A Study of Alternative Partner Preference Using Facial EMG**

**STUDENTS** Cassandra Faiella, Kathleen A Nicoletto, Kayla Scoumis

**ADVISORS** R Matthew Montoya

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

Past research has demonstrated that stimulus preference can be determined by relatively unperceivable facial expressions (e.g. Winkelman & Cacioppo, 2001). By utilizing facial electromyographic responses (facial EMG), viewing unpleasant stimuli has been associated with corrugator supercilli activation/brow muscle activation while viewing pleasant stimuli has been associated with zygomaticus major activation/cheek muscle activation. Those specific muscles are generally active when the face is frowning or smiling, respectively. In this research, we were interested in using facial EMG to assess how and why an individual's relationship status might affect physiological responses to alternative dating partners. Specifically, we were interested in differentiating between two possible reasons for derogating alternatives: (a) motivational, in which labeling alternatives as attractive arouses dissonance within them and is then reduced by rating others as unattractive, and (b) perceptual, in that people in committed relationships do not notice the attractiveness of alternatives (Agnew et al., 2010; Johnson & Rusult, 1989). We predicted that participants who were asked to think about their relationship (the dissonance condition) would respond with more interest (indicated by increased zygomaticus major activation) but lower subjective ratings of attractiveness. Alternatively, in a control condition when dissonance is not aroused, any reduction in physical attractiveness would result from an inability to notice the attractiveness of alternatives due to the committed relationship.

## **Do Measures of Ocular Gaze Correlate with Subjective Ratings in Assessing Aesthetic Preferences for Faces?**

**STUDENTS** Adam Barnas, Daniel A Hurlburt, Hannah L Lieber, Paulina E Rosequist, Margaret A Wedell

**ADVISORS** Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

In evaluating an image, the medium in which it is presented (e.g., photography, painting, digital art), among other factors, impacts preference (Lacey et al., 2011). To this end, we set out to determine preference for faces in paintings compared to photographic renderings of paintings. A photographic rendering depicts the same content and arrangement of features that the painting includes. Paintings and photographs were chosen out of a larger stimulus pool in which participants viewed each image separately and provided scale ratings of beauty and aesthetic pleasingness. Mean ratings for these attributes were compared to mean ratings of similarity for the same paintings and photographs that had been matched and presented together. Consequently, stimuli rated high in similarity, beauty, and aesthetic pleasingness were selected for a subsequent study. For this study, participants will evaluate faces in paintings and photographic renderings of paintings, as well. However, they will provide subjective ratings of aesthetic pleasingness, similarity and perceived value of the stimuli while head-mounted cameras record measures of ocular gaze (i.e., visual scan paths, fixation times, and pupil dilations). We predict that faces in paintings will be rated higher in aesthetic pleasingness as compared to the photographic renderings because of the perceived artistic value of the paintings. Furthermore, we expect subjective ratings to correlate with measures of ocular gaze directed toward features that determine aesthetic value and preferences for faces in paintings versus faces



in photographs. Results from this study have implications in marketing and product development, as well as improving our understanding of what is considered art and how it adds to perceived value. Furthermore, the use of physiological measures, such as those of ocular gaze, along with the ubiquitous subjective ratings stands to illuminate better the intimate relationship between body and mind.

### **Effects of Sustained Attention on Auditory Displays, Mental Workload, and Stress**

**STUDENTS** Adam Barnas, Nnimnoabasi E. Essien, Graham Lang, Giuseppe G Miranda, Christian L Sutphin

**ADVISORS** Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

Vigilance can be defined as the sustained attention required in detecting transient and infrequent signals over an extended period of time (Warm, 2003). The current research defines these infrequent signals as critical signals in order to demonstrate that their appearance marks some kind of unfavorable event. Typically, these experiments focus on the display of either or both auditory and visual stimuli. However, in the study described here, two experiments study only auditory stimuli. The first experiment manipulates the duration of an auditory tone using two tones of equal loudness that last for different lengths of time. In this instance, the critical signal is the tone with the shorter duration. The second experiment manipulates the spatial location of auditory tones, using the same type of tone. Although, the tones are of equal duration, they are spatially presented at different locations in auditory space around the head of a perceiver. In this instance, the critical signal will be the tone that is off-center in relation to the head and heard mainly in one ear. The relevance of this research is that many professions (e.g., air traffic control) require sustained monitoring to detect changes in signals, including auditory tones. There is a potential for catastrophic events, such as the fatal crash of an airplane, if a critical auditory signal is missed by an air traffic controller. Therefore, studies of the factors affecting the monitoring of auditory signals will continue to focus on the ability of people to accurately perform sustained attention tasks.

### **Using a Mental Rotation Task to Assess the Effect of Biasing Information on Overconfidence and Narcissism**

**STUDENTS** Adam Barnas, Cara M O'Grady, Ellen I Snyder, Shea M. Tolson, Zachary J Vidic

**ADVISORS** Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

This study evaluates levels of overconfidence using a series of visual imagery tasks while assessing participant level of narcissism, or excessive self-admiration that leads to an unrealistic view about personal physical and mental capabilities. Participants were randomly assigned to an experimental or a control condition. Participants in the experimental condition received biasing information concerning a gender stereotype (i.e., Some research shows that men perform better at spatial tasks and women perform better at verbal tasks), whereas participants in the control condition did not receive the biasing information, but received instructions similar to those given in the experimental condition necessary to complete the task. During the visual imagery tasks, letters (F, L, and R) appeared on a computer screen either in a correct formation, as if typed in a word, or an incorrect formation as a mirror image of the correct formation. The letters were also presented at different clockwise rotations (rotated every 30° from the upright position). After each image disappeared, participants reported the formation of the letters (correct or mirrored) regardless of the rotation and gave an indication of their confidence in accurately identifying the proper formation of the letter. We predict that men in the experimental condition will express greater confidence compared to men in the control group and to all women because of perceived male superiority on the visual imagery task. Furthermore, we predict that women in the experimental condition will express lower confidence compared to women in the control group because of perceived female inferiority on the visual imagery task. In general, overconfidence (confidence as compared with performance) will be greater for participants who express more narcissistic characteristics. The results of this study will demonstrate a relation between perceived gender biases and overconfidence that may prevail in many learning environments, such as schools and universities.

### **Detecting Critical Signals in Sustained Visual Attention Tasks Using Simulated Radar Screens**

**STUDENTS** Adam Barnas, Nnimnoabasi E. Essien, Graham Lang, Giuseppe G Miranda, Christian L Sutphin

**ADVISORS** Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

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Psychology, Poster - Independent Research

Vigilance, or sustained attention, typically requires observers to monitor many signals for infrequent critical signals over extended periods of time (Warm, 2003). Infrequent signals, otherwise known as critical signals, are presented differently in some manner and less frequently than the more common and frequent neutral signals. Critical signals typically indicate impending danger that requires immediate action to be made by an observer. Past research posits that sustained attention during a vigilance task declines for some time and is most likely caused by mindlessness, or a withdrawal of attention from the monitoring task (Robertson et al., 1997). The present research investigated the ability of participants to detect changes in visual stimuli and the confidence in their ability to accurately identify critical signals. Participants were presented with sets of stimuli containing four arrows in a circle facing the same clockwise or counter-clockwise direction. Participants responded to the critical signal in the set, which was when one arrow faced the direction opposite to the other three. Participants were queried about their confidence in the accuracy of their detections after all critical and an equal number of neutral signals. Our expectation is consistent with the typical decline in attention over time; that is, confidence will also diminish as the vigilance task continues. The results of the present study can be applied to any situation requiring sustained monitoring of informational displays. For example, pilots and technicians are required to monitor streams of visual and auditory stimuli for prolonged periods of time where the consequence of not detecting a critical signal could be catastrophic. Understanding more about vigilance processes can help avoid disaster.

## Characteristics of Emotion for Paintings and Classical Music

**STUDENTS** Adam Barnas

**ADVISORS** Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

While listening to music, people emit a variety of responses which can be physiological, cognitive, and physical in nature. The likelihood of eliciting these responses, however, depends largely on the type of emotion that the music is conveying. Therefore, music excerpts need to be categorized by the emotion they convey in order to accurately study how humans respond to music. Furthermore, theories of aesthetics, which concern the study of beauty and art, have emphasized the role of art in evoking, shaping, and modifying human feelings. Recently, researchers are becoming more interested in emotions and art, and a standardized set of emotional stimuli (e.g., paintings) will be beneficial in providing appropriate stimuli for future studies of art and emotions. The present research was aimed at categorizing classical musical and paintings based on characteristics of emotion, such as valence (whether the emotion is positive or negative), arousal (high or low intensity), and dominance (whether the emotion is controlling or dominating), as well as familiarity. Well-detailed and informative databases will be created for use in future experimental investigations of emotion, music, art, aesthetics, and attention. At the present time, there exist such databases for emotional photographs, sounds, and words, but not for paintings or classical music. Participants rated 39 excerpts of classical music and 60 paintings using the Self Assessment Manikin (Bradley & Lang, 1994), a 9-point, non-verbal pictorial ("figure") rating system that directly assesses affective reaction to emotional stimuli. Mean ratings of the characteristics of emotions were calculated for each painting and musical excerpt and will be used to select stimuli for use in future studies. The existence of collections of standardized stimuli that have been rated for emotion allow better management in the selection of stimuli and encourage more exact replications across research labs.

## Aesthetic Evaluations and Emotional Responses Evoked by Paintings and Classical Music in Artists, Musicians, and Non-Experts

**STUDENTS** Adam Barnas

**ADVISORS** Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Graduate Research

Most studies examining emotion have used either visual or auditory stimuli to evoke specific emotional responses. A limitation of using only visual or auditory stimuli is that these results are, in themselves, not easily generalized because a majority of real-life emotional experiences are a combination of both types of stimuli. Only recently have examinations of emotion used audiovisual displays of stimuli in their presentation, consisting of pictures of faces or humans paired with speech or classical music. Furthermore, most studies do not consider level of expertise, such as that of professional artists or musicians, which has been shown to affect cognitive processes such as memory and face recognition. Thus, it is logical to assume that the degree and quality of emotion evoked by a stimulus would also be affected by expertise. To this end, the present study

examines the affect of expertise on aesthetic evaluations and emotional responses to auditory (music), visual (art), and audiovisual displays. Musicians, artists, and non-experts will be presented with emotion-eliciting visual and auditory stimuli, presented alone and together, and will report ratings of valence (whether the emotion is positive or negative), intensity of the emotion (weak or strong arousal), and several scales of aesthetics while an eye-tracker records physiological measures of ocular gaze (i.e., visual gaze path, fixation times, and pupil dilation). The use of eye-tracking equipment will add significant support to research on the effects of expertise on emotional and aesthetic responses to music and art, a research topic that has not relied on physiological measures in the past. The observations provided by subjective ratings in conjunction with physiological data will make important contributions to an improved understanding of the mechanisms involved in emotional reactions and the processes involved in the appreciation of music and art.

## **Neural Correlates of Human Trust in Automation**

**STUDENTS** Catherine E Devlin

**ADVISORS** Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Honors Thesis

My thesis was conducted Wright Patterson Air Force Base. This study focuses on the development of trust with a computer system and its neural correlates. This was accomplished looking at EEG data from participants as they perform a task that is automated, AF\_MATB.

## **Put Your Money Where Your Mouth is: Feedback Reduces Overconfidence When Betting**

**STUDENTS** Adam Barnas, Megan K Dailey, Kristen A Kemp, Peter M Sismour

**ADVISORS** Susan T Davis

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

Previous research has shown that overconfidence, or the belief that one can perform better on a task than one actually can, is associated with risky behavior, or the willingness to place high bets on uncertain answers (Campbell, Goodie, & Foster, 2004). The present research evaluated the relationship between overconfidence, risky behavior, and narcissism, or excessive self-admiration that leads to an unrealistic view about one's physical and mental capabilities. Participants were given a series of questionnaires and completed assessments of overconfidence, risky behavior and narcissism. They were then assigned either to place bets using virtual money to express their confidence in the accuracy of their answer (betting condition) to a series of general knowledge questions (GKQs), or to rate their confidence in their ability to accurately answer (confidence condition) the same series of GKQs. To examine the effect of timing on reported confidence, participants either rated their confidence before or after responding to each GKQ. To examine the effect of feedback on confidence, participants either received or did not receive feedback after answering each GKQ. Preliminary analyses reveal that participants in the betting condition were less overconfident than participants in the confidence condition, and that there was no significant relationship between narcissism and overconfidence. Additional analyses are expected to indicate that participants receiving feedback after answering the GKQ will show a reduction in confidence over the course of responding to the GKQs. Consistent with other published research (Mamassian, 2008), results are expected to indicate that confidence will be greater before responding to the GKQ, an effect of anticipatory overconfidence, or inability to estimate the magnitude of subjective uncertainty in decision making.

## **Visual Cues used for Relative Distance Judgements in 2D Displays**

**STUDENTS** Laura A Janosko

**ADVISORS** Susan T Davis, Benjamin R Kunz

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Honors Thesis

Our experiment will investigate distance judgments in computer generated 2D displays. Distance judgments in 2D images are made all the time in fields such as architecture and design, the medical field and satellite images. Our experiment will investigate the role of the depth cues shadows and texture. A 2D display of a desktop with between 5 to 8 objects will be presented to participants. Each scene will have two conditions: high quality (simulations of objects with correct texture and shadow information) and low quality (objects have incorrect texture information and no shadows). Unit-less relative distance judgments will be made between objects to determine if the visual cues texture and shadow information aid in spatial perception. An eye tracker will be used to determine on which visual cues participants rely. Results will provide information about how shadow and texture information in 2D displays are used in spatial perception. Our hypothesis is that participants will be more accurate in high

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quality conditions. We also expect participants to focus on shadow and texture information in the high quality condition. In contrast, participants will use object geometry to judge distances in the low quality conditions.

### **Spatial Intelligence and Memory for Location in Athletes and Non-Athletes**

**STUDENTS** Adam Barnas, Lauren A Ellinghausen, Eric M Gammarino, Laura A Janosko, Giuseppe G Miranda

**ADVISORS** Susan T Davis, Benjamin R Kunz

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Psychology, Poster - Independent Research

Aside from obvious differences in training and experience between athletes and non-athletes, there are other perceptual, motivational, and cognitive explanations for differences in athletic performance. Explanations that were investigated in the present research were memory for location and spatial abilities. Thirty athletes (having 10 or more years of experience playing sports) and 30 non-athletes (having less than 6 years of experience playing sports) were given several memory tests, including a test of memory for object location, and spatial intelligence assessments, including a mental rotation task (identifying and matching two objects presented at different visual angles), spatial orientation tasks (imagining different perspectives in space), and movement imagery tasks (visualizing motor actions). The memory test of importance required that participants recall the beginning and ending location of an object that had moved. We predict that athletes will perform better than non-athletes on the memory for object location test (where a moving object is presented among a varying number of distracters). Athletes were also predicted to outperform non-athletes on several spatial abilities tasks because of their experience in tracking the location of objects in relation to objects in a spatial layout, such as the center circle and the baskets on a basketball court.

### **Integration Bee Lunch, Department of Mathematics**

**ADVISORS** Arthur H Busch, Maher B Qumsiyeh

**LOCATION, TIME** Science Center Atrium, 12:00 PM-1:00 PM

Mathematics, Presentation - Independent Research

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

### **And It Rained All Night: Writing About the Great Dayton Flood of 1913**

**STUDENTS** Samuel J Glenn

**ADVISORS** Albino Carrillo

**LOCATION, TIME** ArtStreet Studio C, 1:00 PM-1:20 PM

English, Presentation - Graduate Research

Just as Ohio will forever proclaim its right to the title 'Birthplace of Aviation,' the state also deserves the title 'Birthplace of the Short Story Cycle.' This project takes up that torch 'returning the short story cycle to the state of its inception' by engaging with the city of Dayton, OH, which Paul Laurence Dunbar once referred to as 'the brightest gem / that has ever decked with beauty / Dear Ohio's diadem.' The process will involve an in-depth study of the Great Dayton Flood of 1913, through field research and interviews, to create a work of historiografiction, which differs from historical fiction in that it is concerned with resonant themes and deep characters as opposed to facts and details. While the Great Dayton Flood of 1913 has been studied from a social and historical perspective, the events of this period can likewise provide a source for fiction. This project examines the struggles of characters that experienced the disaster. The short story has been described by Tobias Wolff as the 'most distinctive American art form,' and it provides an effective means to explore the city during a cataclysmic event and present it to the general public. This year, 2013, marks the centennial anniversary of the Great Dayton Flood of 1913. The milestone will be marked with special exhibits and re-examinations from the city, its historical institutions and those recently affected by similarly catastrophic floods. This project will incorporate research from the NCR Archive and the exhibit at Carillon Historical Park.

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

**STUDENTS** Oorvashi Roy Gajendranath Puli

**ADVISORS** Amit Singh

**LOCATION, TIME** Kennedy Union 211, 1:00 PM-1:20 PM

Biology, Presentation - Graduate Research

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 a GATA-1 transcription factor, *pannier* (*pnr*). There is a need to identify new components to understand the mechanism of DV patterning. We have identified defective *proventriculus* (*dve*) as a new dorsal eye gene. Loss-of-function (LOF) of *dve* in the eye results in dorsal eye enlargements, ectopic eyes, antennal duplications and loss of ocelli. Gain-of-function (GOF) of *dve* suppresses the eye fate by regulating the RD genes. *dve* misexpression does not affect *Ey* but downregulates the downstream *target eyes absent* (*eya*), *sine oculis* (*so*) and *dachshund* (*dac*), suggesting that *dve* acts downstream of *ey* and is involved in blocking retinal differentiation to promote the dorsal head fate. Using genetic epistasis we found that *dve* acts downstream of *pnr* and upstream of *wingless* (*wg*). We found that *dve* is involved in regulating the *Wg* morphogen gradient in the eye. Here we present *dve* as a novel dorsal gene required in the dorsal eye during development.

## **Missing Body: The Disappearance of Mystical Body of Christ Theology in the Twentieth Century**

**STUDENTS** Timothy R Gabrielli

**ADVISORS** William Portier

**LOCATION, TIME** Kennedy Union 222, 1:00 PM-1:20 PM

Religious Studies, Presentation - Graduate Research

What happened to the Mystical Body of Christ? In the first half of the twentieth century, the theology of the mystical body of Christ had great appeal to Catholics of different persuasions and locations. As the engine of much theological and religious fervor, the theology dominated Catholic discourse during the period between the wars. But by 1970, it had all but vanished from Catholic theology. What exactly happened to the vibrant theology of the mystical body of Christ is something of a mystery. Scholars allude to its disappearance, but there is disagreement among them. In contrast to those who find it inherently weak or misguided, there are those who argue that the impulses behind mystical body theology were fulfilled with the reforms of the Second Vatican Council. Nevertheless, the Council itself only mentions the mystical body of Christ a few times in the documents, whereas Pope Pius XII deemed the subject worthy of an entire encyclical in 1943. Clearly something had changed. This presentation, supported in part by the University of Dayton Office for Graduate Academic Affairs through the Graduate Student Summer Fellowship Program, evaluates the various scholarly explanations for its disappearance. It further argues that the simple identification of Mystical Body of Christ with a theology of the Church narrows our historical lens for seeing the ways in which the insights of the mystical body movement have endured in contemporary Catholic discourse.

## **The Thought of Martin Luther on the Immaculate Conception of the Blessed Virgin Mary**

**STUDENTS** Richard E Lenar

**ADVISORS** Gloria Dodd

**LOCATION, TIME** LTC Team Space, 1:00 PM-1:20 PM

International Marian Research Institute, Presentation - Course Project, 13 SP MRI 627 01

The presentation will examine the development of the theological thought of the 16th century Reformer Martin Luther regarding the Immaculate Conception of the Blessed Virgin Mary. Luther's thought on this topic was not static, so only an outline of how his thinking evolved will be included. The relationship of the Immaculate Conception to other key ideas in Luther's thought, such as justification by faith and the sole mediation of Christ, will be explored. The differences between Luther's teachings and those of the Catholic Church will be highlighted. The presentation will conclude with a brief summary of how Luther's ideas have been influential through the present day and how those ideas have entered into ecumenical dialogue between Catholics and Lutherans.

## **The Rise of School Shootings and the Fall of American Morality**

**STUDENTS** Kristen N Drilling, Matthew T Eatherton, Rebecca C Winters

**ADVISORS** Timothy F Apolito

**LOCATION, TIME** St. Joseph's Hall 023, 1:00 PM-1:20 PM

Criminal Justice Program, Presentation - Independent Research

In this presentation, we trace the development of the American public's entitlement, its resentment of authority and public service, and the history of school shootings. We postulate that the rise of violence and school shootings in the United States is due to a degradation of morality in the

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American psyche. We look at the family unit, the media, and mental illness in our evaluation of modern American violence, and we attempt to explain the reasons behind the increase in school shootings over the past 50 years.

### **The Importance of Teacher Response to ELL Student Writing: TAs and IEP Instructors**

**STUDENTS** Emily M Walters

**ADVISORS** Patrick Thomas

**LOCATION, TIME** Humanities 118, 1:00 PM-1:40 PM

English, Presentation - Graduate Research

As the field of composition changes for both students and teachers, the focus on the global scale becomes more prominent, specifically when discussing schools with large amounts of international students. With the ever-growing amount of international students, the need to examine how we respond to ELL (English Language Learners) student writing is extremely pressing. The key to an international student's success is the written response given to the student by their instructor, specifically with regards to IEP (Intensive English Program) instructors and teaching assistants. When examining ELL student writing, it is important to consider the comments being made by IEP and TA (Teaching Assistant) instructors. The main issue to be surveyed is where disconnects between IEP instructors and teaching assistants are happening and how these disconnects can be fixed to improve ELL students' writing and overall education. I have looked into the success of ELL students, specifically using one IEP instructor and two TAs' written response on ELL student papers to discover bias, cultural difference, or if another finding shows where the disconnect between IEP and college-level prose happens. My presentation will pinpoint what is happening with the student between their IEP classes, the TOEFL exam, and their college-level classes; if the fault of the placement falls to the IEP instructor, the student, if the expectations are too high for either set of instructors, or if the material covered is too hard for the ELL students. By looking at these factors, I will be able to show how these findings will establish a better relationship between the teaching assistants and the IEP instructors, lead to future collaborations with each other, and help ELL students improve how and what they are learning.

### **Human Trafficking Awareness: United States**

**STUDENTS** Anastashia F Hicks, Gabrielle M Imai, Bailey M Romans

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** St. Joseph's Hall 231, 1:00 PM-1:40 PM

Political Science, Presentation - Course Project, 13 SP POL 300 03

This presentation will focus on bringing awareness to the modern day epidemic of human trafficking. Through our studies we have learned that it is a common assumption that this modern day slavery doesn't happen in the United States so we will be providing facts (numbers), testimonies, and examples to show the high levels of human trafficking.

### **La Fin: Senior Portfolio Presentations**

**STUDENTS** Meaghan G Crowley, Breann N. Gabel, Sabine Hahn, Jill M Pajka, Laura R Petrocci

**ADVISORS** Michael Gary Marcinowski

**LOCATION, TIME** ArtStreet Studio B, 1:00 PM-2:00 PM

Visual Arts, Presentation - Capstone Project

The Stander Symposium presentation "la fin" is the product of the portfolios of the senior Fine Art and Art Education majors. As part of their senior capstone course, students build a portfolio of work from their past studio courses that best defines their artistic voice in a professional setting. The class allows them to explore who they are as individuals, professionals, and artists. Students will present their portfolios in a professional format on the day of Stander Symposium as a culmination of this capstone course.

### **Writing a History of Food and Society as a Class Project**

**STUDENTS** Anne Jacqueline Best, Carolyn R Capka, Kristin Rose Creel, Ryan M. Dahlhauser, Trevor Charles Langton, Thaddeus J Masthay, Kelsey J Mcgrail, Brittany A Sherman, Jessica F Shremshock, Emily E Vuco-vich, Samuel L Zaharko, Yuan Zhou

**ADVISORS** Bobbi Sutherland

**LOCATION, TIME** Humanities 122, 1:00 PM-2:00 PM

History, Presentation - Course Project, 13 SP HST 103 H1

In place of ordinary research papers HST 103 H1 students wrote a book together. They will discuss the challenges and opportunities this project offered, writing in connection to someone else, and what they learned about society and food from this project and each other. Half of the discussion will focus on approaching the project and the writing process; the other half will discuss the subject matter itself.

## **The Role of Non-State Actors in Congo**

**STUDENTS** Grace F Blumberg, Daniel L Dashewich, Jordan A Powers

**ADVISORS** Alexandra Budabin

**LOCATION, TIME** Kennedy Union 310, 1:00 PM-2:00 PM

Political Science, PRESENTATION - COURSE PROJECT, 13 SP POL 431 P3

This panel will present research around the role of non-state actors in human rights in Congo. The actors to be examined include private military firms, multinational corporations, and non-governmental organizations.

## **Solving Problems through Academic Synthesis: An Interdisciplinary Approach to Understanding Community Food Environments**

**STUDENTS** Andrew R. Kowalski

**ADVISORS** Donald L Pair

**LOCATION, TIME** Kennedy Union East Ballroom, 1:00 PM-2:00 PM

Geology, Presentation - Capstone Project

The important problems of our communities and our world are often complex and dynamic. Our knowledge of these issues is largely based upon various academic disciplines and their respective bodies of work. With the increasing interrelation and interdependence of global and local issues, no single perspective offers the means by which problems are understood or, in many cases, even described. An example of such an issue is diet and health. Diet and health are major public health concerns, especially in relation to chronic diseases. Attention has shifted from focusing on an individual-level understanding of diet and physical activity to recognizing the critical and complex influence that social and built environments have on this issue. Many urban areas have recognized the importance of the built environment in determining individuals' physical activity and have successfully created healthier activity spaces. However, the same advancements have not occurred regarding diet and social and built environments. The issue of community food environments has been conceptualized and measured by various disciplines, namely dietetics, public health, sociology, and geography. Though single-discipline studies have helped describe this problem, the interdependence and complexity of its various dimensions demands an interdisciplinary approach for conceptualization, assessment, and intervention. This session is divided into three parts. The first section will be an oral presentation of a capstone research project of a community food environment within the City of Dayton. Drawing upon the fields of sociology, nutrition sciences, and geography, the researcher demonstrates how community food environments can be understood through incorporating multiple methodologies. The second half will consist of a guided discussion between the student researcher and representatives of various academic disciplines about the insights, challenges, and limitations of an interdisciplinary approach within academics. This will be followed by an informal question and answer session.

## **The Impact of Female Peacekeepers on Culture and Gender**

**STUDENTS** Mary C Alwan, Allison M Varricchio

**ADVISORS** Natalie F Hudson

**LOCATION, TIME** Kennedy Union Torch Lounge, 1:00 PM-2:00 PM

Political Science, Presentation - Independent Research

With the changing nature of armed conflict today, the lines between perpetrator and victim, peacekeeper and combatant are often blurred. However, men are still seen as the primary participants in the peace process and post-conflict reconstruction. With the passage of United Nations Security Council Resolution 1325 in 2000, the international community started to recognize women's important impact on international peacekeeping and conflict resolution. As signatory states seek to comply with its mandate, UN member states are working to increase the number of women participating in international peacekeeping missions and some have even been deploying all-female formed police units within these broader operations. India and Bangladesh are two of the states that have adopted this progressive peacekeeping approach with their respective units in Liberia and Haiti. This decision appears rather anomalous, since their state and local policies reinforce cultural norms of gender inequality

## COLLEGE OF ARTS & SCIENCES

in both the public and private spheres. This research aims to discern why India and Bangladesh engage in gender-progressive peacekeeping initiatives when their domestic policies reinforce traditional and oppressive gender roles.

### **The Ecology of “Media Literacy”: Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development**

*\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Megan R Abbate, Grace C Ahern, Erin K Buckley, Timothy G Carroll, Jenn I Churik, Cassidy E Colarik, William Murphy Difrancesca, Steven F Fuggi, Brianna L Heschel, Mary L Keegan, Olivia M Kellman, Kayla M Mueller, Sarah Paolo, Theresa A Rotuno, Ronda M Sca

**ADVISORS** Ronda M Scantlin

**LOCATION, TIME** LTC Studio, 1:00 PM-2:00 PM

Communication, Presentation - Course Project, 13 SP CMM 449 02

We now live in complex, media-saturated environments - ones filled with televisions, DVD and Blu-ray players, personal computers, tablets, the Internet, video gaming systems, iPods, smart phones, and other portable devices. Media have transformed the ways in which we communicate, educate, and entertain. Furthermore, we continue to develop dependencies on our technological devices without fully understanding the consequences for real-life relationships. The purpose of this panel discussion is to explore the critical questions surrounding (1) the acquisition of media literacy skills from childhood through adulthood and (2) the impact of media experiences on our cognitive, social, emotional, and physical development and well-being. The term “media literacy” is often considered an umbrella concept including elements of the following: mass media literacy (i.e., understanding how messages are constructed as well as examining how individuals interpret those messages differently), digital literacy (i.e., using digital technology, communication tools, and/or networks to access, manage, evaluate and create), and information literacy (i.e., accessing information efficiently, evaluating it critically, and using it accurately.) Acquiring the above-mentioned skills affords tremendous opportunities and is an essential component of becoming a member of our participatory culture. Equally important, however, is reflection on the ethical choices that one makes as a member of that culture. Too often, we see insufficient recognition that individual decisions can have detrimental consequences for others - from cyberbullying to catfishing. With that in mind, panel participants will conclude the session with a discussion surrounding one of the primary goals of media literacy education - encouraging responsible digital citizenship.

### **Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township**

*\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Dominique M Ballmann, Maggie A Hinkle, Jen A Hodulik, William H. McCadden, Mary Catherine C McDonald, Concetta M Reda

**ADVISORS** Michelle C Pautz, Danielle M Poe

**LOCATION, TIME** Marianist Hall Learning Space Commons, 1:00 PM-2:00 PM

Philosophy, Presentation - Course Project, 12 FA POL 300 01

We are part of a course devoted to understanding the complex issues associated with rights, justice, and the environment. This semester, we have investigated the controversy surrounding the operation of the Clean Water Limited facility in Jefferson Township. This facility processes wastes and has been the source of much frustration for its neighbors and government regulators regarding noxious fumes and questions as to whether permit conditions are being met. We are presenting the results of our research on four of the stakeholders in order to demonstrate that environmental justice issues are rarely simple. Clean Water Limited, formerly known as Perma-Fix, has incited discussion around issues of environmental justice in Jefferson Township since its founding. Serious concerns from the surrounding neighborhood, the Ohio EPA and Regional Air Pollution Control Agency about toxic fumes being emitted into the air and the debate over legality of these emissions have unified to act against the plant. In 2003, the neighborhood surrounding Perma-Fix formed the Neighborhood Environmental Committee (NEC), a grassroots organization with the mission of addressing the serious issues at hand regarding Perma-Fix and future environmental violations. The NEC, RAPCA and Ohio EPA joined to file a lawsuit against Perma-Fix, which was settled in 2008, which is also when the company's name changed to Clean Water Limited. Despite the claimed compliance of Clean Water Limited, to this day neighbors of the plant complain about the intolerable fumes and their resulting health affects. This projects gives in depth analysis of the Neighborhood Environmental Committee, their formation, their identified partners, and their identification of the issues surrounding the Clean Water plant in Jefferson Township.



## **Environmental Rights, Law and Justice: Clean Water Limited and Jefferson Township**

### *\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Margaret E Butzke, Evan M McCreary, Bryanna A Nennig, Taylor D Pair, Amy K Schultz

**ADVISORS** Michelle C Pautz, Danielle M Poe

**LOCATION, TIME** Marianist Hall Learning Space Commons, 1:00 PM-2:00 PM

Philosophy, Presentation - Course Project, 13 SP POL 300 01

Stock Language: We are part of a course devoted to understanding the complex issues associated with rights, justice, and the environment. This semester, we have investigated the controversy surrounding the operation of the Clean Water Limited facility in Jefferson Township. This facility processes wastes and has been the source of much frustration for its neighbors and government regulators regarding noxious fumes and questions as to whether permit conditions are being met. We are presenting the results of our research on four of the stakeholders in order to demonstrate that environmental justice issues are rarely simple. In the Case Study of Jefferson Township our group researched the role that the local government agency,, the Regional Air Pollution Control Agency (RAPCA), plays in the controversy surrounding the local company, Clean Water Limited. RAPCA's mission is to protect the citizens in the region from the harmful impacts of air pollution, in which they implement and oversee that companies in the area comply with regulations set by the Ohio Environmental Protection Agency (OEPA) and ultimately the USEPA. The neighborhood of Jefferson Township has experienced ongoing problems with Clean Water Limited, mostly dealing with the foul odors emitted from the premises. This prompted RAPCA to step in on behalf of the citizens of the neighborhood to determine if Clean Water Limited was violating the set regulations and, if so, fining them and enforcing new company requirements in order to eliminate the odor problem. We will present our research regarding this stakeholder's involvement in the controversy and its ongoing role in environmental protection.

## **Environmental Rights, Justice, and the Law: Clean Water Limited and Jefferson Township**

### *\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Alysa Birdsall, James B Coon, Kylie Kelly, Elizaveta Klementieva, Erin R Shelley

**ADVISORS** Michelle C Pautz, Danielle M Poe

**LOCATION, TIME** Marianist Hall Learning Space Commons, 1:00 PM-2:00 PM

Political Science, Presentation - Course Project, 13 SP POL 300 01

Stander Abstracts We are part of a course devoted to understanding the complex issues associated with rights, justice, and the environment. This semester, we have investigated the controversy surrounding the operation of the Clean Water Limited facility in Jefferson Township. This facility processes wastes and has been the source of much frustration for its neighbors and government regulators regarding noxious fumes and questions as to whether permit conditions are being met. We are presenting the results of our research on four of the stakeholders in order to demonstrate that environmental justice issues are rarely simple. In order for people to enjoy clean water and air, the Ohio Environmental Protection Agency (OEPA) is responsible for protecting the environment and public health by implementing environmental laws and conducting oversight. For this project, our group researched and focused on the OEPA's involvement in a local environmental case in Jefferson Township. Clean Water Limited is a wastewater treatment center that has been the source of much controversy because of the toxic fumes produced by its facility. These noxious fumes have raised concerns for the surrounding neighbors as well as government regulators because of the potential health and environmental impacts of the facilities. OEPA is one of the four major stakeholders in this environmental issue. They are primarily involved in providing environmental permits to facilities, such as CWL. Our group focused on how OEPA, in particular, works with CWL and the other two stakeholders to address the concerns of neighbors and regulators. Our presentation will include detailed research about the OEPA as well as information obtained from an interview with representatives from the agency. We will also provide evidence about how the OEPA is currently working to address the issue at hand with CWL.

## **Environmental Rights, Justice, and the Law: Clean Water Ltd in Jefferson Township**

### *\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Trevor E Beck, Elizabeth A Mitchell, Alexandra E Neal, Victoria L Redden, Laila T Sabagh

**ADVISORS** Michelle C Pautz, Danielle M Poe

**LOCATION, TIME** Marianist Hall Learning Space Commons, 1:00 PM-2:00 PM

Political Science, Presentation - Course Project, 13 SP POL 300 01

## **COLLEGE OF ARTS & SCIENCES**

We are part of a course devoted to understanding the complex issues associated with rights, justice, and the environment. This semester, we have investigated the controversy surrounding the operation of the Clean Water Limited facility in Jefferson Township. This facility processes wastes and has been the source of much frustration for its neighbors and government regulators regarding noxious fumes and questions as to whether permit conditions are being met. We are presenting the results of our research on four of the stakeholders in order to demonstrate that environmental justice issues are rarely simple. Clean Water Limited is a waste water and oil treatment plant with a branch in Jefferson Township, Ohio that is situated in a residential neighborhood. A group of residents have been vocal about their opposition regarding the pollutants and odors coming from the Clean Water Limited facility. This concern has prompted the Ohio EPA and the local agency, the Regional Air Pollution Control Agency to become involved. However, according to Clean Water Limited, they produce less waste and odors than the maximum amount determined by the regulations which are applicable to them. The company is very clear when they communicate that they work within the environmental codes and hold all the permits that they are required to have. Even so, Clean Water Limited says that they are continuing to work with the Ohio EPA and RAPCA in order to meet and address the wants and concerns of the community. We examine this case study, attempt to come to a conclusion on the validity and legality of Clean Water Limited's statements and actions, and attempt to determine whether or not the facility's activities are in fact harming or negatively impacting the neighborhood in which they operate.

### **Effectiveness of Ohio's Mental Health Courts in Reducing Recidivism**

**STUDENTS** Ashley T Merino

**ADVISORS** Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 1:00 PM-2:00 PM

Criminal Justice Program, Presentation - Capstone Project

This paper examines the effectiveness of Ohio's top mental health court programs in reducing criminal recidivism rates among mentally ill offenders. Ohio was once a pioneer and model for mental health courts; however, recent reports call for improvement in treatment programs for mentally ill Ohioans. This research is designed to investigate how the mental health courts of Ohio compare to other states, such as New York, in reducing recidivism rates among offenders suffering from mental illnesses. Data collection will include court process literature, actual court data. Once collected and analyzed, the data will be interpreted to find whether or not Ohio has lowered its mentally ill offender recidivism rates. Through comparing the mental health courts of Franklin, Summit, and Butler counties, to successful courts in other states, such as the Brooklyn Mental Health Court of New York, the researcher will explore the areas in which Ohio's Mental Health Courts need improvement and possible policy implications for future legislation. Ultimately, the researcher hopes to address ways in which Ohio's mental health courts can reduce recidivism, better serve the needs of mentally ill offenders, and continue to keep Ohio safe.

### **Patterns of Recidivism: Are Sex Offenders Going Back for Seconds?**

**STUDENTS** Dustin S Paulus

**ADVISORS** Jeremy S Forbis, Arthur J Jipson, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 013, 1:00 PM-2:00 PM

Criminal Justice Program, Presentation - Capstone Project

This research identified patterns of recidivism among sexually based offenders in a stratified sample of court cases. These cases were drawn from a representative sampling of four different regions of the United States (case data was drawn from East, Midwest, West, and South). The secondary data analysis identified trends from the data set that exhibited the highest rate of recidivism based on examination of correlations and co-variance. The findings from the data will allow the researcher to examine the rates of recidivism and conduct an analysis of the data that shows the story that is behind the numbers.

### **Perceptions of Sexual Behavior For the Exchange of a Benefit by College Students: The Depiction of Reality**

**STUDENTS** Heidi N Schmid

**ADVISORS** Timothy F Apolito, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 1:00 PM-2:00 PM

Criminal Justice Program, Presentation - Capstone Project

College student sexual activity/behavior is a newly studied area. The practice of engaging in sexual behavior by college students may be tied to perceptions of benefit. These benefits include, but are not limited to, the following: the powerful influence to conform to a society's norm (such as partaking in casual sexual behavior), to seek out sensations, to gain self-esteem, and to receive a form of monetary support. This study will examine the particular reasons that University of Dayton undergraduate students engage in sexual behavior in an effort to understand the norms of college sexuality. An online survey will be given to a cross section of student participants. This research project will assist in the gathering of data consisting of diverse perceptions relating to the reasons for the engagement in sexual behavior between University of Dayton students on campus. The data found and collected will then provide a basis for determining if efforts for educating students on healthy engagement of sexual behavior need to be implemented.

## **Beyond 1 in 4: Predictors and Prevalence of Sexual Violence Victimization**

**STUDENTS** Alec M Smidt

**ADVISORS** Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 013, 1:00 PM-2:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

In 1988, the term "1 in 4" was first used to describe the proportion of young women, largely those attending institutions of higher education, who had an experience before beginning or at some point during college that met the legal definition of rape. This study aims to research current literature on the predictors (i.e. factors that may increase the likelihood or predispose an individual to being sexually victimized in a violent way) and the prevalence (i.e. the scope and magnitude of the problem) of sexual violence victimization and perhaps further explore the phenomena of "1 in 4". To do this, a secondary data analysis has been conducted on a series of nationwide, generalizable surveys. The results of these analyses will be discussed in the context of current research and findings in the literature. Implications of this research and these findings will also be discussed.

## **Feminist Social Change: Learning from Activists' Memoirs**

**STUDENTS** Donald D Clancy, Kaetha L Frost, Ashleigh O. Green, Lauren E Hennessy, Jessica C Metz, Emily A Ochs, Lauren E Porter, Emily A Prager, Anne E Somerset, Sierra L Thomas, Olivia J Ullery, Maria C Wendling

**ADVISORS** Rebecca S Whisnant

**LOCATION, TIME** Kennedy Union 331, 1:00 PM-2:20 PM

Women and Gender Studies Program, Presentation - Course Project, 13 SP WGS 350 01

What conditions nurture the emergence, success, or failure of feminist projects and movements? What tactics for feminist social change are both just and effective? How do feminists confront backlash, handle intrafeminist conflicts and controversies, and build coalitions with other movements for social justice? Students from WGS 350 (Feminist Social Change) will examine these and other key questions, based on their readings of memoirs by several prominent feminists. The memoirists include Bettina Aptheker, a "red-diaper baby" turned free-speech activist and feminist rebel; Leymah Gbowee, a Liberian peace activist who mobilized women to help end a brutal civil war; Ayaan Hirsi Ali, a Somali-born feminist, atheist, and politician who emphasizes the status of women within Islam; and Audre Lorde, a black lesbian feminist "warrior poet."

## **Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health**

*\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Olivia M Cleary, Sarah J Frankenberg, Colleen M Hallinan, Emily F Hoelter, Kathryn M Kinsel, Nicole M Kotwasinski, Lauren Ashley Kring, Haley D Phillips, Katelyn Rendulic, Deanna M Sanders, Zachary E Tencza, Amy N Whitaker, Wujian Zhang

**ADVISORS** Carissa M Krane, Caroline W Merithew

**LOCATION, TIME** LTC Forum, 1:00 PM-3:00 PM

History, Presentation - Course Project, 13 SP ASI 342 H1

These presentations are part of the final project for our Crossing Boundaries Pilot Course -- Women's History/Women's Health. Students will present research that integrates disciplinary tools in the humanities and sciences to understand how and why women and their health have been historically and biologically constructed. The issues of "disease" and "difference" are common themes in each of the research projects and presentations which run the topical gamut of aging, environment, sexuality, maternity, and access to healthcare. With an eye to both chronological change in

## COLLEGE OF ARTS & SCIENCES

society and women's life-cycle transformations, we show that female bodies have been epistemologically constituted in culture, politics, science, medicine, and ideology.

### 11th Annual Integration Bee, Mathematics

**ADVISORS** Arthur H Busch, Maher B Qumsiyeh

**LOCATION, TIME** Science Center 255 - Chudd Auditorium, 1:00 PM-3:00 PM

Mathematics, Interactive Competition

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. The first 'y' 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. The Department of Mathematics will host a pizza lunch in the Science Center Atrium from 12:00 p.m. - 1:00 p.m. prior to the Integration Bee.

### Honors Recital Auditions

**STUDENTS** Jonathan A Higgins, Kate E Hunt, Mitchell A McCrady, David A Middleton, Brennan A Paulin, Jonathan D Payne, Chris A Satariano, Yemani E Schneider, Matthew S Schroeder, Gillian Claire Taylor, Anthony M TrifiLetti, Rebecca E Welch, Jessica L Wellman, Brando

**ADVISORS** Phillip C Magnuson

**LOCATION, TIME** Sears Recital Hall, 1:00 PM-3:00 PM

Music, Performance - Course Project, 13 SP MUS 202 01

Twelve music students have been selected by the music faculty for presenting some of the best student performances of the 2012-2013 school year. Three judges will select six finalists from this program to perform on the annual departmental Honors Recital, to be held Friday, 26 April 2013 at 1:00 pm in Sears Recital Hall.

### Issues and American Public Opinion

**STUDENTS** Mary E Ashcraft, Ryan F Edwards, Heather E Fedon, Gregory S Fox, Samuel J Hattrup, Nia J Holt, Kayleigh R Kavanagh, Richard J Lovell, Eugenie T Morgan, Jeff T Nandor, John R Nelson, Carli Maryse Pappas, Jim V Wombwell

**ADVISORS** Daniel R Birdsong

**LOCATION, TIME** St. Joseph's Hall 221, 1:00 PM-3:00 PM

Political Science, Presentation - Course Project, 13 SP POL 311 01

In 1961 V.O. Key Jr. wrote: "To speak with precision of public opinion is a task not unlike coming to grips with the Holy Ghost." Student will present original research that examines what Americans, past and present, think about a variety of issues, from foreign policy to gay rights.

### Peacemakers: Women of Liberia

**STUDENTS** Mary C Alwan, Natalie F Hudson, Allison M Varricchio

**ADVISORS** Natalie F Hudson

**LOCATION, TIME** Kennedy Union Torch Lounge, 1:00 PM-4:00 PM

Political Science, Visual Arts Exhibition - Independent Research

Dayton's International Peace Museum presents "Peacemakers: Women of Liberia," a cultural exhibit that directly coincides the research of the undergraduate students involved in the presentation. The exhibit includes information on the history of Liberia and its founding in the 19th Century by freed American slaves and freeborn American blacks. The exhibit follows the struggles of the "Americo-Liberians" to build an independent African nation to include Liberia's diverse indigenous cultures. Learn how Christian and Muslim women came together to force an end to 14 years of civil wars from 1989 to 2003. Find out how Liberia is seeking justice and reconciliation and working to create a peaceful future. And learn about Dayton's Sister Cities relationship with Monrovia' Liberia's capitol' and the partnership between the Episcopal Church in Southern Ohio and Episcopalians in Liberia.

## Challenges facing Russia, Ukraine, and the New States

**STUDENTS** Daniel L Dashewich, Scott Fogel, Patrick J Forte, Sarah M Gaskell, Beatrix B Heynig, Emily C Jirles, Jasmine R Jordan, Andy J Kurzhals, Katya Alexis Lambo, Gregory C Puskaric, Danielle J Rellinger, Andy A Roberts, Rebecca C Winters

**ADVISORS** Jaro M Bilocerkowycz

**LOCATION, TIME** St. Joseph's Hall 025, 1:00 PM-4:15 PM

Political Science, Presentation - Course Project, 13 SP POL 321 H1

Russia, Ukraine and the post-Soviet states face numerous domestic and international challenges. One set of presentations will focus on Organized Crime in Post-Soviet Russia; Controversy over State Symbols: Russian National Identity in the Post-Soviet Era; Russia-Iran Relations; Friends or Foes? The Russian-Israeli Relationship; Russia and the EU; and Russian Use of Soft Power in the Post-Soviet Region. Another set of presentations will examine The Ukraine Famine: Media Coverage that Concealed a Tragedy; Ukraine: The Challenge of Building a Modern Nation; Ukraine-NATO Relations; and The Revival of the Baltic States Post-USSR. The third set of papers will analyze Life Expectancy and Infant Mortality in the Post-Soviet States; The Politics of Caspian Sea Oil; and Trafficking for Prostitution in the Post-Soviet Region.

## Branding and Conceptual Design for Smorgasburger Food Truck

**STUDENTS** Karli R Tomaselli

**ADVISORS** Kathleen W Kargl

**LOCATION, TIME** ArtStreet Studio E, 1:00 PM-5:00 PM

Visual Arts, Visual Arts Exhibition - Independent Research

After attending a festival this past summer featuring the best food trucks in New York City, I was inspired to brand and design my own food truck called Smorgasburger. Giving this mobile restaurant's brand a modern feel with a bright color palette, playful typography and minimalistic illustrations, I incorporated these aspects into its logo, truck design, packaging and other parts of the Smorgasburger brand.

## Study of the role of Cullin-4 function during organogenesis in the *Drosophila melanogaster* eye.

**STUDENTS** Timothy Lawrence Cutler, Meghana Tare

**ADVISORS** Amit Singh

**LOCATION, TIME** Kennedy Union 211, 1:20 PM-1:40 PM

Biology, Presentation - Honors Thesis

A complete understanding of protein homeostasis during the cell cycle is vital for a complete understanding of organogenesis. Ubiquitin mediated protein degradation machinery plays an important role in maintaining the protein homeostasis during organogenesis. E3 ubiquitin ligases catalyze ligation of ubiquitin moieties onto the substrate proteins that need to be degraded. Here we propose to study the role of one of the important E3 ubiquitin ligases, Cullin-4, in degradation of a cell cycle regulatory protein E2f1. We have identified Cullin-4 as a gene required for cell survival during early stages of eye organogenesis in the *Drosophila melanogaster*. As indicated by a previous report, E2f1 is a reported target of Cul-4 in order to maintain G1-S transitions during the cell cycle. Interestingly, up-regulated as well as down regulated levels of E2f1 during development have been shown to cause the cell death and aberrant cell cycle. We will use a well-established model of *Drosophila melanogaster* to test if E2f1 is a target of Cullin-4 mediated degradation during the organogenesis of the eye. There is a high degree of genetic conservation between flies and mammals, hence these studies can be extrapolated in understanding genetic basis of complex process of cell death versus cell survival during eye organogenesis.

## The American Reception of Hans Urs von Balthasar from 1979-2004

**STUDENTS** Joshua R Brown

**ADVISORS** William Portier

**LOCATION, TIME** Kennedy Union 222, 1:20 PM-1:40 PM

Religious Studies, Presentation - Graduate Research

My paper addresses the question of how Hans Urs von Balthasar's work was received in the American theological academy. In the paper I attempt to identify the most significant articles and figures that played instrumental roles in shaping how the American theological academy received

## COLLEGE OF ARTS & SCIENCES

Balthasar, and thus how interpretation of his work changed over a 25-year span. More importantly, I also identify several features of the methodologies used in interpreting Balthasar's work, including which texts were found to be most important. This allows me to conclude a number of salient features which characterize the American theological enterprise. After detailing three distinct periods of Balthasar's reception - marked by particular interest in certain parts of his trilogy - I then draw inferences about fundamental characteristics of American theology. Simply put, I argue that American theology is much more prepared to apply itself the sphere of ethics, goodness, and action (both human and divine) than it is to mediate questions of absolute beauty. Finally, I conclude that American theology perhaps stands in need of Balthasar as a paradigm for theological investigations precisely because of his understanding of the circumincision of the transcendental properties of Being, namely that Goodness and Beauty are inseparable.

### **Canisius vs. Luther: Their Fight over Mary in the Magnificat**

**STUDENTS** James Koelsch

**ADVISORS** Gloria Dodd

**LOCATION, TIME** LTC Team Space, 1:20 PM-1:40 PM

International Marian Research Institute, Presentation - Course Project, 13 SP MRI 627 01

This study evaluates the arguments offered by Peter Canisius during the Reformation to refute Martin Luther's translation and interpretation of the Magnificat. Canisius accused Luther of distorting the text and history to force Mary's words to support his basic doctrines on faith, works, grace, and the unique mediation of Jesus Christ. Although Catholic scholars agree that Canisius may have scored some good points in the debate, they also acknowledge that he made some mistakes of his own, relying too much on popular legend and failing to acknowledge legitimate points made by his opponent. Using critical studies on both the biblical text and Luther's commentary on it, this study investigates those charges and answers such questions as whether Canisius made too big a deal over Luther's use of "lowly" instead of "humble." The study concludes by suggesting ways in which this knowledge can be used in the continuing ecumenical dialogue between Protestants and Catholics, as well as in the New Evangelization.

### **Hippo Signaling Pathway and JNK Signaling Pathway in Amyloid-Beta 42 (A $\beta$ 42) Mediated Cell Death**

**STUDENTS** Madison Nichole Irwin

**ADVISORS** Madhuri Kango-Singh, Amit Singh

**LOCATION, TIME** Kennedy Union 211, 1:40 PM-2:00 PM

Biology, Presentation - Honors Thesis

Alzheimer's Disease (AD) is a progressive neurodegenerative disorder without a cure. It is characterized by accumulation of A $\beta$ 42 peptides, which are toxic to neuronal cells and lead to cell death. Earlier, we have shown that a highly conserved signaling pathway, c-Jun amino-terminal (NH2) kinase pathway (JNK) is involved in A $\beta$ 42 mediated neurodegeneration. Here we present the role of the highly conserved Hippo signaling pathway, which is known to regulate cell death and organ size growth, in A $\beta$ 42 mediated neurodegeneration. I will employ a *Drosophila* eye model where human A $\beta$ 42 is misexpressed in the differentiating eye, which exhibits a similar neuropathology as seen in AD. I will use this model to discern the interactions of the Hippo and JNK Signaling pathways in A $\beta$ 42 mediated cell death. We have generated transgenic and mutant flies that can be used for gain-of-function as well loss-of-function conditions of these pathway members to observe their effect on the A $\beta$ 42 neurodegenerative phenotype. We have found that the gain of function of the Hippo signaling pathway enhances the A $\beta$ 42 neurodegenerative phenotype, while loss of function of this pathway rescues the neurodegenerative phenotype. Further, Hippo signaling is activated in an A $\beta$ 42 background, but shows no activity when activated on its own. This data suggests that the Hippo pathway (i) plays an important role in A $\beta$ 42 mediated neurodegeneration and (ii) its interaction with the JNK pathway leads to the A $\beta$ 42 mediated neurodegenerative phenotype. This data will allow us to understand the genetic basis of the A $\beta$ 42 mediated neurodegenerative phenotype.

### **The Role of Mycolactone in Suppression of the Innate Immune Response and Alteration of Aquatic Biofilm Metabolic Profiles: Implications for Buruli Ulcer Disease**

**STUDENTS** Alexander J Ulintz

**ADVISORS** Mark E Benbow

**LOCATION, TIME** Kennedy Union 311, 1:40 PM-2:00 PM

**Biology, Presentation - Honors Thesis**

Buruli ulcer disease (BU) is an emerging tropical infection of the skin and underlying tissues that leads to extensive deformity and disability. There are 5-6,000 new cases reported each year in 30 countries of West Africa and parts of Australia, primarily affecting children ages 0-15. Although infection is rarely lethal, BU is physically, socially and economically destructive. BU is caused by the environmental pathogen *Mycobacterium ulcerans*, which secretes a unique toxin called "mycolactone". While normal infections get warm, raised and painful, *M. ulcerans* infection typically does not swell and is relatively painless due to the effect of mycolactone. Therefore, my thesis research sought to explain how mycolactone is preventing both inflammation and mounting of a successful immune response through mycolactone assays with mycolactone on RAW 264.7 murine macrophages. Results include the observation of a MAPK/CDK substrate antibody that is uniquely phosphorylated (bands at 40-50kDa and 115-130kDa) only in the presence of mycolactone. Furthermore, because *M. ulcerans* is an environmental bacterium thought to be transmitted from water, I hypothesized and tested a novel weapons role of mycolactone on aquatic biofilm metabolic profiles.

**Exploring Gene Expression Differences between Dorsal and Ventral Early Lens Regeneration****STUDENTS** Clifford J Ivester**ADVISORS** Panagiotis A Tsonis**LOCATION, TIME** Kennedy Union 312, 1:40 PM-2:00 PM

Biology, Presentation - Course Project, 12 FA BIO 421 P1

Human regeneration is extremely limited in comparison to amphibian regeneration; while we are confined to only being able to fix things such as our liver and skin, amphibians are able to regrow anything from the brain to the heart to the lens of the eyes. This unique ability that amphibians possess is the cause for such great interest in the genetic differences between humans and them. *Notophthalmus viridescens*, known more commonly as the red spotted newt, is the focus of this experiment due to its ability to regenerate its lens, when removed by lentectomy. Regeneration occurs by transdifferentiation only of the dorsal iris PECs. It is possible to induce lens regeneration via the ventral iris by activating certain genetic pathways. The focus of this project was to find genes that are expressed significantly more in the dorsal or ventral iris during the first 4 to 8 days of lens regrowth.

**Woman in the Full Quiver: An Analysis of the Discourse of Womanhood in the American Quiverfull Movement****STUDENTS** Emily H McGowin**ADVISORS** Susan L Trollinger**LOCATION, TIME** Humanities 118, 2:00 PM-2:20 PM

English, Presentation - Graduate Research

Quiverfull' is the label given to a broad-based and decentralized social movement within Western evangelical Protestantism. The biblical reference from which they derive their name is Ps. 127:4-5: 'Like arrows in the hands of a warrior are children born in one's youth. Blessed is the man whose quiver is full of them.' This verse combines two images that have become central to the identity of Quiverfull families: childbearing and cultural warfare. The aim of Quiverfull families is nothing less than complete social hegemony, looking to prolific childbirth and conservative Christian home education as the primary means of accomplishing 'dominion' within American culture. In short, these families intend to out-populate and out-educate their non-Christian neighbors. My research suggests that the Quiverfull way of life is enacted through a three-part 'discursive web': (1) a pro-family, anti-contraception discourse, (2) a libertarian, free market economic discourse, and (3) a patriarchal antifeminist discourse. Although none of these discourses necessarily presuppose the other, in the Quiverfull movement all three converge. To contribute toward a better understanding of this contemporary religious movement, this presentation offers an analysis of the discourse of womanhood at work in Quiverfull families. The presentation has two major parts. First, using historical studies and rhetorical analysis, I illustrate the ways in which the contemporary Quiverfull movement displays significant rhetorical commonalities with the 19th Century 'cult of true womanhood,' early 20th Century Protestant fundamentalist gender ideology, and the late 20th Century antifeminist rhetoric of the Religious Right. Second, I begin to draw some conclusions regarding the Quiverfull discourse of womanhood. Most notably, my analysis shows that the Quiverfull discourse of womanhood ultimately defines woman solely in terms of motherhood, thereby eliminating 'woman' as a subject apart from 'man,' and leading to a discourse of womanhood that is, paradoxically, androcentric.

## COLLEGE OF ARTS & SCIENCES

### The regulation of Dronc by Hippo Pathway

**STUDENTS** Aidan Fenix, Shilpi Verghese

**ADVISORS** Madhuri Kango-Singh

**LOCATION, TIME** Kennedy Union 211, 2:00 PM-2:20 PM

Biology, Presentation - Graduate Research

Hippo pathway regulates organ size by maintaining a fine balance between cell death and proliferation by regulating the transcription of several target genes including diap1, myc, ex, bantam miRNA, head involution defective (hid), Drosophila Nedd-2 like caspase (dronc) and cyclin E. Loss of Hippo signaling causes proliferation by increased activity of its transcriptional co-activator Yorkie (Yki); whereas gain of Hippo signaling by hyperactivation of genes like Hippo causes cell death via Jun N-terminal Kinase (JNK) and Caspase mediated cell death pathways. We found that loss of warts (wts) induces dronc transcription suggesting that Dronc is normally activated by Hippo signaling unlike other reported target genes. We will test the mechanism of dronc regulation by Hippo signaling. Mammalian Yorkie homologs (YAP, TAZ) act both as transcriptional co-activators/repressors. YAP regulates apoptosis through p73 - a p53 family transcription factor. The p53 family [p73, p63, p53] regulates growth, apoptosis and DNA damage response. Drosophila p53 (Dmp53) is the sole p53 family gene in flies, and Dmp53 regulates dronc transcription for the regulation of irradiation-dependent and independent compensatory proliferation. The Hippo pathway may regulate dronc transcription through or independent of Yki to regulate organ size. Using GAL4-UAS and transgenic RNAi approaches, we tested for interaction between Dmp53, Hippo pathway and Dronc to investigate the mechanism by which Hippo pathway controls dronc transcription. Over expression of full length Dmp53 enhances the cell death caused by Hippo over-expression while loss of Dmp53 and hpo (using RNAi) in the wing pouch (using nub GAL4) down-regulates dronc transcription suggesting that Dmp53 acts downstream of Hippo pathway. We present our studies of the interaction between the Hippo pathway and Dmp53 in the regulation of dronc transcription.

### The Rural/Urban Dyad: Explorations in Space and Place

**STUDENTS** Scott C McDaniel

**ADVISORS** Vincent J Miller

**LOCATION, TIME** Kennedy Union 222, 2:00 PM-2:20 PM

Religious Studies, Presentation - Graduate Research

Questions concerning the central role of 'place' and/or 'space' in the development of distinct cultures and their practices have been an increasing focus of philosophical inquiry over the past century. Through their consideration of the multiple ways in which the physically spatial dimensions of life shape and construct our daily practices, numerous authors have expanded our understanding of cultural dynamics. Whether examining the 'social production of space' (Henri Lefebvre), the distinction between 'strategic' and 'tactical' navigations of space (Michel de Certeau), the interdependency of 'place' and 'space' (Yi-Fu Tuan), or the anti-essentialist, dynamism of space (Doreen Massey), numerous authors have provided us with the conceptual resources to re-conceive the individual and communal connection to spatial realities. And yet, the majority of the key texts in this field 'the conceptual canon' focus on the urban space. The metropolitan horizon 'its buildings and streets, its global post-industrialism' represents the most influential of spaces. Certainly, numerous authors adopt a critical stance towards the city-scape, yet their theoretical frame(s) nevertheless remain wedded to a predominantly urban locus. The objective of this project is to critically examine a selection of these texts, and in doing so begin to construct a 'rural/agrarian' alternative. Here I will draw on my previous research, specifically the agrarian critique of modern society. Building on my research into Wendell Berry's emphasis on remaining 'rooted' in one's particular space, in his case the local, agrarian communities of America, I will investigate the intersection between the 'philosophy of space' and 'rural/agrarian philosophy.' With this project, focusing primarily on the work of Lefebvre, Certeau, Tuan, and Massey, I begin what I see as the necessary process of constructing a 'rural philosophy of space.'

### Social Stigma, Homelessness, and Mental Illness: An Experimental Study

**STUDENTS** Nyssa L Snow

**ADVISORS** Roger N Reeb

**LOCATION, TIME** LTC Meeting Space, 2:00 PM-2:20 PM

Psychology, Presentation - Graduate Research

Social stigma, is deeply discrediting, and diminishes an individual from a whole and usual person to a tainted, discounted one (Goffman, 1963, p. 3). Individuals with mental illness receive harsh stigmatization (Hinshaw & Stier, 2008, p. 367), due to an exaggeration of the link between mental illness and violence/danger. Stigma against the homeless may be more severe when homelessness and mental illness co-occur (Phelan



et al., 1997). Media (Powell, 2011) and public (Arumi et al., 2007) overestimate this association and may fail to grasp that trauma, homelessness, and mental illness are interconnected in a cycle of reciprocal determinism (Snow & Reeb, in press, p. 12). This study examined the following research questions: Is stigma greater when a homeless person is mentally ill? Does stigma differ based on whether a homeless person developed mental illness prior to or during homelessness? Undergraduates (N=243) were randomly assigned to vignette conditions: (1) mental illness onset prior to homelessness; (2) mental illness onset following homelessness; (3) mental illness in homeless person without onset information; and (4) homeless person with no mention of mental illness. After reading vignettes, participants completed measures of stigma-related reactions (Corrigan et al., 2003) and social desirability (Paulhus, 1991). Participants exhibited: (a) greater feelings of danger, segregation, and coercion, when the homeless person had a mental illness; (b) greater feelings of personal blame and less pity when the homeless person was not described as mentally ill; (c) greater desire to avoid the person who developed mental illness prior to homelessness; and (d) greater feelings of personal blame, fear, and segregation when the person developed mental illness after homelessness. Results are discussed within the context of the attribution model of social stigma (Weiner, 1980; Corrigan et al., 2003). Recommendations for research aimed at better understanding and reducing social stigma against homeless people are delineated.

## **Reducing Technology Use on Campus: An Experiment**

*\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Magdalene L Egan, Alexa Lee Hines, Kelly E Kunkel, Jarrod J Wurm

**ADVISORS** Jana M Bennett

**LOCATION, TIME** Marianist Hall Learning Space 218, 2:00 PM-2:20 PM

Religious Studies, Presentation - Course Project, 12 FA REL 360 01

This project is part of the Ethics in Action Living Learning Community on campus. This LLC has been an experiment in thinking about practical ethical action in relation to campus life (including campus housing and classroom experiences), as well as to the broader Dayton community. Students in the LLC identified three campus related projects for the 2012/2013 school year. Our group's project investigated technology use on campus. Our two main objectives were making students aware of their use of technology in the form of energy as well as encouraging them to cut back on that energy use. We educated students on their energy use and compared whether energy use changed before and after our education attempts. Our presentation discusses both our results as well as some possible ways forward toward better energy use on campus.

## **Southeast Asian Terrorism: The Second Front**

**STUDENTS** Matthew J Rohan

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** St. Joseph's Hall 231, 2:00 PM-2:20 PM

Political Science, Presentation - Course Project, 13 SP POL 300 04

Until recently scholars and policymakers have underestimated the connection between radical Islam in Southeast Asia and the existing Al-Qaida terrorist networks in the Middle East as well as the growing threat posed by these newer networks in Southeast Asia. Following the deaths of 202 people that were killed in a 2002 terrorist attack known as the Bali Bombings, much more attention has been paid to the threat posed by these militant groups and scholars and members of the intelligence community have uncovered the link that has existed between Southeast Asian Islamic terrorist networks and Al-Qaida dating back to the Afghan holy war in the 1980's. My research will look at these links and I will be conducting a network analysis of these groups based on each networks area of operation in an attempt to disprove the theory that these are domestic groups with domestic grievances and show that these complex networks have become transnational and rely on each other for finance, training and operational assistance. By demonstrating this, the new findings will suggest that these multi-layered transnational Islamic terrorist networks pose a greater threat to the United States and Western people than the localized groups these networks were thought to be.

## **Branding: Designing for the Consumer's Perception**

**STUDENTS** Katerina C Carabin, Cassandra L O'Connell, Tara L Oneill, Kevin A Sirak

**ADVISORS** Jayne Matlack Whitaker

**LOCATION, TIME** ArtStreet Studio C, 2:00 PM-2:40 PM

Visual Arts, Presentation - Course Project, 13 SP VAD 415 02

## COLLEGE OF ARTS & SCIENCES

Typically related to consumer products and services, the goal of branding is to form an overall perception in the consumer's mind through a variety of means. Branding is usually the result of collaboration among many (i.e. researchers, writers, graphic designers) where every discipline comes together to position and deliver the aspirations, values, and benefits of the product, service, or organization. Successful branding creates positive associations and establishes consistent expectations for the consumer. A brand is not just a trademark, or just a visual identity system. It is the management of differences that exist in the minds of people. To effectively differentiate their product, service, or organization designers must ask themselves of their client 1) Who are they? 2) What do they do? 3) Why does it matter? In Graphic Design III, a senior level undergraduate course, students were asked to research and create or re-create an innovative, alternative, or entrepreneurial product, service, or organization. They were also required to select one of these that were useful in terms of something such as the environment, energy conservation, sustainability, social consciousness, public awareness, time efficiency, etc. Through extensive research, writing, concept and design, each of the projects presented will reflect a student's individual brand development. These selected projects are only four of 18 currently on display in the Department of Visual Arts on the second floor of the College Park Center that are open to the public during the closing reception of the annual Horvath Juried Student Exhibition.

### Changing Cultural Frameworks

**STUDENTS** Molly C. Higgins, Emily M McCauley, Sarah A Williams

**ADVISORS** Bobbi Sutherland

**LOCATION, TIME** Humanities 122, 2:00 PM-3:00 PM

History, Presentation - Course Project, 13 SP HST 486 P1

These three papers all address the way key cultural concepts are defined or change over time. Emily McCauley compares the idealized understanding of motherhood with reality in the medieval world and looks at how this reality varied by social class. Sarah Williams looks at love, courtship, marriage, and the concept of courtly love in Chaucer and Shakespeare, viewing these writers as representatives of their times and considering how attitudes changed from the fourteenth to the sixteenth century. Finally, Molly Higgins examines Elizabeth I's claim to have been educated as a 'prince' by comparing her education to both real and ideal male and female education of her time.

### Research on the Conflict in Darfur

**STUDENTS** Evan C Allen, Gabriella Cipriani, Kristen N Drilling, Hillary Fry, James Harless, Joseph William Horan, Cody J Knife, Margaret Ann Maloney, Matthew T Meitner, Erin E Peery, Jonathan D Puricelli, Anna L Syburg

**ADVISORS** Alexandra Budabin

**LOCATION, TIME** Kennedy Union 310, 2:00 PM-3:00 PM

Political Science, Panel Discussion - Course Project, 13 SP POL 300 06

This panel will report on various research projects investigating the conflict in Darfur.

### Findings on Human Rights Research from the UD McGrath Student Fellows

**STUDENTS** Mary C Alwan, Darlin Blanco-Lozano, Daniel L Dashewich, Coral V Flamand Mendez, Erin L Gahimer, Beatrix B Heynig, Allison M Varricchio, Molly R Winslow

**ADVISORS** Alexandra Budabin, Simanti Dasgupta, Natalie F Hudson, Glenna Jennings, Theophile J Majka, Tereza M Szeghi Dempster

**LOCATION, TIME** Kennedy Union Torch Lounge, 2:00 PM-3:00 PM

Political Science, Presentation - Independent Research

The UD McGrath Student Fellows will discuss general thoughts on researching the practice of human rights. Students will present findings from yearlong research projects conducted with faculty McGrath Research Fellows. These projects showcase interdisciplinary perspectives from sociology, anthropology, political science, visual arts and English.

### Teachers and Firearms.

**STUDENTS** Sean T. O'Bryan

**ADVISORS** Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 2:00 PM-3:00 PM

Criminal Justice Program, Presentation - Capstone Project

This research project will examine the University of Dayton's security measures used to protect students and faculty. This research specifically addresses the question of whether or not professors/faculty/staff should be allowed to carry firearms on campus. Currently, Ohio is one of twenty-one states that ban concealed and carry at higher education institutions. Electronic surveys were sent to both professors and students to determine their perspectives on safety and Carry Conceal process.

## **Firearm Safety: A Case Study to Prevent the Next Columbine Shooting**

**STUDENTS** Colin P Patterson

**ADVISORS** Arthur J Jipson, Dan E Miller

**LOCATION, TIME** St. Joseph's Hall 013, 2:00 PM-3:00 PM

Criminal Justice Program, Presentation - Capstone Project

All across the country, everyone has experienced some level of fear and anxiety towards the recent shooting of the children at Sandy Hook Elementary. The fear that there are people among the population harboring an altered state of mind that ultimately leads to mass violence. Historically, mass shootings have been extremely rare such as the shooting at Columbine in 1999 and then not another on campus shooting till the incident at Virginia Tech in 2003. However of late, whether on a school campus or not, mass murder with the use of firearms has become a more popular means of demanding attention. In the past year, there have been four mass shootings: Sandy Hook Elementary, The shooting in New York of volunteer firefighters, The Aurora Movie Theatre Massacre, The Oregon Mall shooting. Each one of these perpetrators as well as the ones responsible for Columbine, Virginia Tech, and Northern Illinois University shootings have all been linked to having an emotional break as a result of chronic and acute stress related issues along with long term breaks from reality. The purpose of this thesis is to study past mass shootings through reviewing the psychological assessments of the perpetrators, interviewing a victim to try and understand the emotions involved in such an incident, and reviewing fire arm safety laws and regulations in order to determine a way to help prevent future acts of mass violence by educating the public.

## **Guns on Campus: Concealed Firearms and Students' Perceptions of Safety at the University of Dayton**

**STUDENTS** Erik S Lanzer

**ADVISORS** Arthur J Jipson, Jamie Longazel

**LOCATION, TIME** St. Joseph's Hall 013, 2:00 PM-3:00 PM

Criminal Justice Program, Presentation - Capstone Project

The aims of this project is to determine whether or not University of Dayton undergraduate students' perception of safety on campus will be affected by a policy change that allows Concealed Carry Weapon (CCW) permit holders to carry their firearm on campus. This project will assist in examining student opinion will be done through the use of anonymous, online surveys to undergraduate students from a variety of majors at UD. The researcher will analyze both independent and dependent different variables to examine survey results for patterns among students. Limitations of this project include time restrictions, students being completely truthful, and the risk of this survey consisting of potentially sensitive topics.

## **Smart Policing: How Dayton Deals With Violent Street Groups**

**STUDENTS** Richard S Pickren

**ADVISORS** Timothy F Apolito, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 2:00 PM-3:00 PM

Criminal Justice Program, Presentation - Capstone Project

In response to an increase in firearm related homicides in the Dayton area, administrators at the Dayton Police Department have implemented new strategies in an attempt to reduce the violence. This research project will examine and analyze one of those strategies called the Community Initiative to Reduce Gun Violence (CIRGV). Accordingly, the researcher will gather violent crime data from the Dayton Police Department and data from the CIRGV program to analyze and evaluate how CIRGV reduces gun violence.

## **Young Love: Healthy Romantic Relationships among University Students**

**STUDENTS** Grace F Blumberg

**ADVISORS** Dan E Miller, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 2:00 PM-3:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

## COLLEGE OF ARTS & SCIENCES

Humans long for the pleasure found in loving another person and being loved in return. Young adults tend to experiment with romance while attending college, which lends itself to a unique atmosphere. Research focusing on love emphasizes the importance of key features necessary for relationships to flourish including intimacy, passion, commitment, and communication. Young adults enrolled in traditional four-year universities experience and experiment with different forms of traditional love. Students, especially those of higher socio-economic status, tend to lack the commitment aspect of romantic love, while emphasizing intimacy and passion. Surveys taken by students at the University of Dayton allowed a deeper insight into the definition of romantic love and understanding of healthy romantic relationships among young adults enrolled at traditional four-year universities.

### College Student Experiences of Bullying and the Role of Technology

**STUDENTS** Samantha Selsky

**ADVISORS** Jeanne A Holcomb, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 2:00 PM-3:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

This presentation examined bullying on college campuses, with special attention given to the role of technology in bullying. Over the past few years, there have been increases in both the number of bullying victims and the number of hours a student spends on the Internet every week. In this study the definition of bullying used is a 'sub-set of aggressive behaviors, intended to be harmful where there is a perceived imbalance of power between the perpetrator and victim' (Black & Louw 2010). To investigate the topic of bullying, Freshman and Senior students at the University of Dayton were interviewed one-on-one to gain insight to their experience with bullying in high school and college. Interviews were transcribed and coded during analysis. Findings were discussed in relation to previous research on bullying in high school as well as workplace bullying. Implications were discussed.

### Their Stories Are Real: A Qualitative Study of the Relationship of Black College Students and Campus Police

**STUDENTS** Frederick L. Cox

**ADVISORS** Leslie H Picca, Ruth Thompson-Miller

**LOCATION, TIME** St. Joseph's Hall 023, 2:00 PM-3:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

The purpose of this research is to expose the current relationship of Black males and campus police with the hope that Universities will be proactive in attaining relationships that combat their historical relationship. Critical Race Theory (CRT) suggest that America's understanding and relationship with racism is very ordinary and in many ways the expectation of our race relations (Calavita, 2010). While law is thought to be objective and autonomous to the social world, the way we have used law in the past has had a direct impact on America's social relations. A convenience sample of 30 Black males attending Predominately White Institutions participated in focus groups sharing their experiences with campus police. This presentation will discuss the results and the possibilities of future research.

### Enrollment Rates of Latino/as in Higher Education with a Focus on Mexican Americans

**STUDENTS** Amanda R Torrez

**ADVISORS** Theophile J Majka, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 2:00 PM-3:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

Very few researchers focus on the barriers, effects, and completion of degree attainment among Mexican American students in higher education. This research explores these issues along with the history of education among Latino/a students, primarily focusing on Mexican Americans in the United States. Interviews of over eight thousand self-identifying Latino/Hispanic residents of the United States were completed focusing on their perceptions of education. Participants interviewed were asked questions based on their views of on non-parental care and program participation of preschool children, issues surrounding school-aged children and after-school arrangements, as well as issues surrounding adult education programs such as ESL and GED courses. The data collected will give a better understanding of the importance some Latinos place on education. The results indicate the most influential contributing factors to a student successfully obtaining a post-secondary degree include a supportive family, supportive guidance counselors and sufficient funds to complete the program.

**Genetic Interaction of runxB with Hippo Signaling Pathway****STUDENTS** Aidan Fenix, Shilpi Verghese, Indrayani Waghmare**ADVISORS** Madhuri Kango-Singh**LOCATION, TIME** Kennedy Union 211, 2:20 PM-2:40 PM

Biology, Presentation - Course Project, 13 SP BIO 421 P1

The Hippo-pathway is a network of tumor suppressing genes that function to regulate cell proliferation and cell survival. Over-expression of the Hippo-pathway results in an increase in apoptosis, while suppression of the Hippo-pathway results in cell proliferation. This characteristic makes the Hippo-pathway very important for diseases that are linked to defects in cell death and proliferation, such as cancer. In this study, the gene of interest is runx B, a gene that is poorly understood in flies. Runx family genes have been shown to act as a repressor with the YAP oncogene in mammalian systems. In addition, Runx has also been linked to cell death in mammalian studies, making it an ideal gene of interest in the Hippo-pathway. Currently we do not understand how Runx family genes induce apoptosis. In order to study its functions, we need to study genetic mutations that disrupt or abolish runxB gene function. Currently such mutations have not been reported in flies. Therefore, we decided to generate a mutation in runxB gene to study its effects on growth and cell death. We took two approaches: the first approach was to create a mutation in the runxB gene by “jumping” out Minos-element (a transposon), and characterizing this mutant to better understand the function of runxB. The second approach was to characterize a transgenic line that knocks-down runxB function [runxB RNAi] to characterize its loss of function. Subsequently, we planned to study its interactions with the Hippo pathway. Attempts at generating a mutation in runxB have thus far been unsuccessful, due to insufficient number of progeny to correctly screen for the mutation, along with gene excisions in undesired areas. Preliminary data for the epistasis studies has been good however. Knocking down the expression of runxB by expressing UAS-runxB RNAi leads to induction of cell death. Activation of Hippo pathway also correlates with increased cell death. We believe that RunxB could act far downstream in the Hippo-pathway. Runx B may also act upstream of dronc, a target gene that regulates cell death and is controlled by the Hippo-Pathway. Our preliminary data shows genetic interactions between runxB and components of the Hippo pathway, suggesting that Hippo pathway may indeed affect RunxB. Further characterization will be necessary to fully understand the roll of runxB in the Hippo-pathway, and its role in cell death. Greater understanding of the roll of runxB could, along with leading to a better understanding of the Hippo-pathway, lead to a better understanding of diseases that are linked to cell death and proliferation.

**Evolutionary Explorations of Ethics: An Interdisciplinary Account of the Development of Human Morality****STUDENTS** Byron W Hoskinson**ADVISORS** Paul E Tibbetts**LOCATION, TIME** Kennedy Union 312, 2:20 PM-2:40 PM

Philosophy, Presentation - Independent Research

Questions of morality have dominated philosophical discussion across cultures for millennia, but only relatively recently have scientific investigations into the nature and origins of morality sincerely begun. The intent of this presentation is to provide a coherent account of the origination, development, and current status of human morality by utilizing a broad, diverse range of scholarship as the evidential vehicle that arrives at the conclusion that human moral capacities are the consequence of a complex evolutionary history. The larger goal is to offer a truly interdisciplinary analysis of one of humanity's most foundational questions. This presentation will begin by positing a definition of morality as it operates within humanity, drawing from sources in anthropology, psychology, sociology, religious studies, and philosophy to substantiate an anthropocentric articulation of ethical behavior. This definition will then be deconstructed to its component elements and repositioned within a neuroanatomical context in which the various aspects of moral behavior will be located to specific neurocognitive architectures, architectures that collectively mediate morality and are individually responsible for particular hominid behavioral patterns. The discussion continues by adopting an evolutionary analysis of these behaviors, variously tracing them to the advent of mammalian group living, the development of proto-social tendencies in primate groups, and the intensification of sociality and cooperation within increasingly populous and complex societal organizations of modern humans. The development of morality-inducing neurological structures will be shown to correlate to significant events along this social-evolutionary timeline until the introduction of anatomically modern humans. From this point onward, moral evolution will be demonstrated to correspond to societal changes, the emergence and growth of culture, the influences of religious/spiritual institutions, and language acquisition. The presentation will conclude with a reflection on the implications of this information in the world today.

# COLLEGE OF ARTS & SCIENCES

## Enhancing Campus Climate

**STUDENTS** Jalisa J Robinson

**ADVISORS** Jana M Bennett

**LOCATION, TIME** Marianist Hall Learning Space 218, 2:20 PM-2:40 PM

Religious Studies, Presentation - Course Project, 13 SP REL 360 H1

This project is part of the Ethics in Action Living Learning Community on campus. This LLC is an experiment in thinking about practical ethical action in relation to campus life (including campus housing and classroom experiences), as well as to the broader Dayton community. Students in the LLC identified three campus related projects for the 2012-2013 school year. My project investigated campus climate with respect to racism and sought ways to foster campus community throughout the University of Dayton. While we speak about our campus being community based, I think that more can be done to integrate students of different backgrounds, cultures, and ethnicities. My goal was to raise awareness of the problems that prevent students from mingling with others who are different from them. To achieve my goal, I participated in the Consciousness Rising Conference in March, and held bi-weekly discussions with diverse groups of students to talk about racial seclusion and to see what we could develop ourselves for fostering a better campus. In my presentation, I discuss the results of those discussions and analyze how the semester project developed and ended.

## The Business of Sex Trafficking in Thailand

**STUDENTS** Patrick E Burke

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** St. Joseph's Hall 231, 2:20 PM-2:40 PM

Political Science, Presentation - Course Project, 13 SP POL 300 04

Several parts of Southeast Asia, especially in the country of Thailand, have become popular destinations for the sex tourism. These sexual markets have become the debate of human rights activists, but there is also another important facet of the sex trade, the functionality of the markets from a business standpoint. In this presentation, I will attempt to explain how these markets work, and the business side of sex trafficking and prostitution.

## UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues

**STUDENTS** Ashley R Dorsey, Erika M Duniak, Monica T Escobar, Audrey R Geiss, Nichole K Henger, Sarah Marie Jenkins, Joseph A Schmidt, Geoffrey T Smith

**ADVISORS** Leanne M Jablonski

**LOCATION, TIME** Kennedy Union East Ballroom, 2:30 PM-3:30 PM

Religious Studies, Panel Discussion - Course Project, 13 SP REL 472 01

Join the Ecology and Religion Course in an interactive dialogue about what should compel UD to sign on to Catholic Climate Covenant and how we would express the commitment in relationship to the Marianist tradition and values of social justice and care for creation. The Catholic Climate Covenant is a national movement of over 27 Catholic national organizations and institutions to educate on and respond to the threat of climate change through a Catholic lens dealing with social injustice and stewardship of creation. Participants are invited to consider initiatives in areas of: prayer, learning, assessing, acting and advocating. We researched what is being done at UD regarding living sustainably to address the impacts of climate change, including the academic programs of the Sustainability, Energy, and Environment (SEE) Integrated Learning-Living Communities, SEE minor and the Engineering masters in clean and renewable energy, student sustainability houses and clubs. We explored programs and activities at Catholic colleges that have signed the Catholic Climate Covenant and those of other faith based college campuses. We also examined the climate change and sustainability initiatives of some other faith-based organizations. We read primary documents of the University of Dayton, Marianist sources and Catholic church environmental teachings (Papal and Bishops). We also examined the initiatives of a subset of institutions with similarities to UD chosen from the 350 campus sustainability websites that are part of the Association for the Advancement of Sustainability in Higher Education. Finally, we drew insights from interviewing relevant environmental and faith-based leaders and organizations on UD campus. We'll report our findings and listen to your ideas as we complete our recommendations.

## Interest Groups, Money and Influence

**STUDENTS** Ralph G Alloco, Justin J Corvino, Joseph A Hangana, Nancy A Miller, Daniel S Rajaiah, Jacob D Rettig, Andy A Roberts, James A Smolik

**ADVISORS** Nancy A Miller

**LOCATION, TIME** LTC Studio, 2:30 PM-3:30 PM

Political Science, Presentation - Course Project, 13 SP POL 314 01

The role of interest groups and money in electoral politics and policy-making is at the forefront of much debate in American politics. This roundtable will discuss the nature of the role of money in both elections and policy-making in the United States. Possible reforms of the current system as well as their potential for success will also be discussed.

## Department of Visual Arts, Senior Capstone Projects in Photography

**STUDENTS** Allison M Gallucci, Sarah R Guarino, Jennifer K Province, Carrie A Sexton, Kristen M Shortell, Krista P Walker

**ADVISORS** Joel A Whitaker

**LOCATION, TIME** ArtStreet Studio B, 2:30 PM-4:30 PM

Visual Arts, Presentation - Capstone Project

Seniors from the Department of Visual Arts Photography Program will give a formal presentation on their capstone projects. These projects contextualize their personal work, as well as examine their individual approach, understanding, and use of the photographic medium. Each student will make a 12-15 minute presentation that utilizes a formal thesis paper and extensive visuals to contextualize their photographic work and development as photographers.

## Differential Hippo Signaling in Compensatory Proliferation in a Drosophila Tumor Model

**STUDENTS** Alyssa C Lesko, Shilpi Verghese, Indrayani Waghmare

**ADVISORS** Madhuri Kango-Singh

**LOCATION, TIME** Kennedy Union 211, 2:40:00 PM-3:00 PM

Biology, Presentation - Honors Thesis

The Hippo pathway has recently been identified to regulate the proliferation and survival of cells in *Drosophila*. The scribble gene has also been identified as a gene that suppresses cell proliferation in tumors. Preliminary data shows that survival of scribble mutant cells is correlated with the Jun N-Terminal Kinase (JNK) pathway, however; the specific interaction between them is currently unknown. The goal of this project is to identify how growth of scribble mutant cells is regulated by the Hippo and JNK pathways. To study these interactions both a functional approach using protein analysis and a genetic approach examining specific phenotypes will be taken. Several different types of *Drosophila* mutants will be used to study interactions between scribble and other known intermediates in the Hippo pathway. Antibody staining will be used to display physical differences between flies, and western blots will be used to study the levels of different phosphorylated proteins that are known to be involved in the Hippo pathway. This research is important because gene mutations affecting cell proliferation can cause a number of health-related problems including cancer and birth defects. This research will lead to insights that will help us understand tumor progression and metastasis in cancer patients. Understanding these pathways is the first step to fighting these diseases caused by uncontrolled cell proliferation. Our findings from these studies will be discussed.

## Art as Sacrament: Rowan Williams's Theology of Art

**STUDENTS** Dennis M Cox

**ADVISORS** Brad J Kallenberg

**LOCATION, TIME** Kennedy Union 222, 2:40 PM-3:00 PM

Religious Studies, Presentation - Graduate Research

This presentation makes three related claims. First, I argue that aesthetics occupies an important place in the theology of Rowan Williams' recently retired Archbishop of Canterbury. Though often overlooked, Williams's theological aesthetics is an important locus for understanding his integration of the Eastern and Western theological traditions insofar as he seeks to fuse a Thomistic account of aesthetic perception with an Orthodox theology of the icon. Second, I argue that Williams's aesthetic challenges the reductionism of modernity in its emphasis on non-instrumental

## COLLEGE OF ARTS & SCIENCES

reason and the dispossession art requires of both artist and observer. Finally, I test the notion that aesthetics provides an illuminating entry-point into Williams's thought, and that the icon can be seen as a "focal image" around which the diverse threads of Williams's thought can be unified.

### **Improving reading Skills in Third Graders at Kiser Elementary**

**STUDENTS** Nicholas F Jurgens, Matthew S Kahwaji, Claire E Kelley, Allison Patricia Lazo-Pacheco, Laura E Stroyne

**ADVISORS** Jana M Bennett

**LOCATION, TIME** Marianist Hall Learning Space 218, 2:40 PM-3:00 PM

Religious Studies, Presentation - Course Project, 13 SP REL 399 P3

This project is part of the Ethics in Action Living Learning Community on campus. This LLC is an experiment in thinking about practical ethical action in relation to campus life (including campus housing and classroom experiences), as well as to the broader Dayton community. Students in the LLC identified three campus related projects for the 2012/2013 school year. Our group's project targets the importance of mastering reading skills at an early age, specifically third grade reading comprehension at Kiser Elementary, Dayton Public Schools. We also examined some of the root causes, such as poverty and parental involvement, for why children in Dayton Public Schools may have difficulties in their education, including reading. This presentation discusses how we took into account those root causes as we did our work at Kiser.

### **Educating Middle and High School Students in the Miami Valley about Human Trafficking**

**STUDENTS** Kristine A Cahall, Natalie E Resparc

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** St. Joseph's Hall 231, 2:40 PM-3:00 PM

Political Science, Presentation - Course Project, 13 SP POL 300 03

In 2013 Professor Talbott, the Co-Founder of Abolition Ohio and two Abolition Ohio Interns created a program to teach middle school and high school students about human trafficking. Current statistics, definitions, and examples of human trafficking were compiled into a comprehensive "Prezi" to deliver a 30 minute presentation on human trafficking in classrooms. Materials were tailored to the maturity level of the age demographic, with the middle school presentation giving an overview of all forms of human trafficking and the high school presentation focusing on sex trafficking. Students from the University of Dayton were then trained to deliver these presentations and certified through Abolition Ohio to perform this outreach program in schools around the Miami Valley area. This presentation will give an overview of the outreach program's learning objectives, teaching methods, and goals. Information from the outreach materials and interviews with the creators of the presentation will be used to give a comprehensive overview of the change this program hopes to stimulate by targeting a younger audience. The presenters are Abolition Ohio certified Human Trafficking speakers who have presented in local schools and can explain from a first person point-of-view the impact the program has had locally. As well as how this type of awareness rising presentation could be adopted in schools throughout the state of Ohio.

### **The "Authorized" Version and the Problem of Authority**

**STUDENTS** Jason A Hentschel

**ADVISORS** William V Trollinger

**LOCATION, TIME** Humanities 118, 3:00 PM-3:20 PM

History, Presentation - Graduate Research

In this presentation, Jason Hentschel analyzes the logic and motivations underlying the insistence of a relatively well-established sector within modern American evangelicalism which maintains that the King James Bible (or Authorized Version) is the present expression of God's inspired and inerrant scripture. This sector, referred to in the relevant literature as 'King James Onlyism', argues that God has 'providentially preserved' his Word in the King James translation of the Bible in order to provide present-day believers with an accurate, discernible, and fully available authority in which they can place their trust with all due certainty. Though often considered 'extreme' or 'fundamentalist' by its evangelical brethren, KJV Onlyism's argument for a providentially preserved text lies within the context of the broader postwar evangelical appeal to an inerrant Bible and, as such, can be appealed to as a reliable expression of evangelicalism's reassertion of biblical errorlessness. For instance, during the 1970s and 1980s, a number of more conservative (non-KJV-Only) evangelicals deemed it opportune to rationalize and fortify closely guarded interpretations of scripture which they understood to be threatened by a heightened interest in and proclivity toward higher criticism, further advances in natural science, and loose morality within their own ranks. Such rationalization and fortification resulted in making biblical inerrancy a litmus



test for evangelical inclusion. The adoption of the doctrine of providential preservation by King James Onlyism reads as one reasonable response to this greater evangelical desire for biblical infallibility and certainty. Hentschel's look into King James Only churches here in Dayton thus shines light on evangelicalism's much greater quest for certainty. Specifically, this insight suggests that in their quest for scriptural truth, evangelicals unfortunately succumbed to the temptation to dogmatize particular pet interpretations, making them the real basis upon which one's orthodoxy was to be determined.

## **Analysis of Yorkie activity in scribble mutant cells challenged with different cell competitive environments**

**STUDENTS** Alyssa C Lesko, Shilpi Verghese, Indrayani Waghmare

**ADVISORS** Madhuri Kango-Singh, Amit Singh

**LOCATION, TIME** Kennedy Union 211, 3:00 PM-3:20 PM

Biology, Presentation - Graduate Research

The Hippo pathway is responsible for regulating organ size through regulating the expression of a diverse array of target genes, and is conserved from flies to humans. Recent studies suggest a role for Hippo signaling in maintaining tissue homeostasis and cell-cell interactions. scribble (scrib) is a neoplastic tumor suppressor gene that regulates growth and maintains apical-basal polarity. scrib acts downstream of Fat to regulate Warts activity in the Hippo pathway. Loss of function of scrib shows distinct phenotypes of survival and growth depending on the genetic background making it ideal to study local cell-cell interactions. Somatic clones of scrib<sup>-/-</sup> cells face cell-competition through JNK mediated apoptosis. We studied somatic clones of scrib<sup>-/-</sup> in various competitive backgrounds that improved survival (over expression of P35, Hippo pathway loss of function, Ras gain of function) or reduced growth rate of the surrounding cells (Minute/+). We found that additional mutations in scrib<sup>-/-</sup> cells caused them to behave like super-competitors. Further, we found that the super-competitive trait is coupled with regulation of Hippo pathway target genes. We hypothesize that the different growth phenotypes are generated by local cell-cell interactions due to differential regulation of Yki activity levels between the mutant clone and the surrounding wild-type cells. To test this hypothesis we have studied the Yki mediated regulation of target genes during super-competition. We have also tested the requirement of differential Yki activity in the growth response of the mutant cells. Our results suggest that Yki activity levels determine the nature of competitive interaction.

## **The Influence of Age, Sex, and Diet on Gustatory Behavioral Response in the Blow Fly, *Lucilia sericata***

*\*DISSERTATION YEAR FELLOWS AWARDEE*

**STUDENTS** Allissa M Blystone

**ADVISORS** Karolyn M Hansen

**LOCATION, TIME** Kennedy Union 222, 3:00 PM-3:20 PM

Biology, Presentation - Graduate Research

Blow fly members of the family Calliphoridae, specifically *Lucilia sericata*, 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 a source of nourishment and is 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 for physiological maintenance in adults. 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 although it is typical to find both males and females near and on decomposing material. Seeking to understand the role sex and nutrition in the attraction of blow flies to different nutritive sources, both male and female adult blow flies were raised from emergence on diets of either honey-water only, or honey-water and a broad-spectrum protein source (bovine liver) after which the flies were then offered a 'taste' of decomposition-related amino acids to determine if diet affects behavior. Six decomposition-related amino acids and two sugar sources (in water) 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 demonstrate that there are statistically significant age-, sex-, and diet-related differences associated with gustatory interest in the amino acids and sugars tested.

## **Proclaiming Christ: Genre and Christology in Thomas Aquinas and Karl Barth**

**STUDENTS** Matthew D Archer

**ADVISORS** Matthew W Levering

## COLLEGE OF ARTS & SCIENCES

**LOCATION, TIME** Kennedy Union 312, 3:00 PM-3:20 PM

Religious Studies, Presentation - Graduate Research

This presentation will illustrate the importance of works in various genres for teaching Christian theology. It will look at works by Thomas Aquinas and Karl Barth in several genres including systematic works, biblical commentaries, and sermons. My presentation will show some examples of how work in alternative genres leads to insights in the field of theology that would not have been possible in the format of academic prose. This paper will be “part two” of my Stander Symposium presentation last year, which looked at contemporary theological experiments with genre in the contemporary theologians Rowan Williams and James McClendon. My presentation will focus on Aquinas and Barth’s Christology, specifically the various ways Aquinas and Barth see Jesus Christ as a model teacher and preacher.

### **What Could (Should?) of Been in Cambodia**

**STUDENTS** Solani T. Harawa

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** St. Joseph’s Hall 231, 3:00 PM-3:20 PM

Political Science, Presentation - Course Project, 13 SP POL 300 04

The Cambodian Genocide occurred from 1975-79 causing the demographic dynamics in Cambodia to be forcibly altered leading to a modern demography that differs from other Southeast Asian countries. Being a relatively small country already, at only about seven million before the genocide, about a third of the population was wiped out due to murder, starvation, exposure and otherwise. So the population was drastically lowered with the remaining population being quite varied. Using comparative methods looking at age, religion, socioeconomic status and more Cambodia’s population will be studied in order to determine whether there are any readily distinguishable results of this past genocide on the modern population. Some study into the psychology of victim trauma will be touched on due to the relatively small size of Cambodia’s population. This study will aim to illuminate some ways in which the “natural” path of Cambodia’s population was altered due to the Khmer Rouge’s reign of terror.

### **Sibling Rivalry or Sibling Abuse?**

**STUDENTS** Maura A Coleman, MacKenzie E Gasper, Aimee M Madliger, Jillian M Purdy, Sierra L Thomas, Cody C Tschantz

**ADVISORS** Shawn A Cassiman

**LOCATION, TIME** ArtStreet Studio C, 3:00 PM-3:40 PM

Sociology, Anthropology, and Social Work, Presentation - Course Project, 13 SP SWK 325 01

Our presentation focuses upon the increased attention to abuse of siblings in the United States. We detail the literature of what constitutes abuse, who is most often the victim of abuse, and the long term impact upon abused, abuser and their families. As shown by our research, the prevalence of sibling abuse and the impact that various types of abuse have on individuals is often associated with previous exposure, a dysfunctional family structure, or stressful environmental circumstances. Through presenting this material, we hope to shed light on the grave importance of this issue, to educate a broader audience about this topic, and to promote prevention techniques and strategies that will alleviate the presence of sibling abuse.

### **The History and Implications of Child Sexual Abuse in the United States**

**STUDENTS** Olivia M Cleary, Mary-Michael K King-Sekulic, Gabriela Lara, Jessica A Minto, Hannah C Pepper, Meghan N Ruddy, Elizabeth C Wetzel

**ADVISORS** Shawn A Cassiman

**LOCATION, TIME** LTC Team Space, 3:00 PM-3:40 PM

Sociology, Anthropology, and Social Work, Presentation - Course Project, 13 SP SWK 325 01

The sexual abuse of children is an ongoing problem in the United States today. Sexual abuse occurs when an adult uses a child for sexual gratification. Abuse may be intrafamilial or extrafamilial. The abuse typically moves throughout a progressive process, where the perpetrator first engages contact with the child and leads up to the abuse. Our project involves a critique of the current interventions and therapies available to aid victims of child sexual abuse. Throughout our presentation we will present a brief overview of the history of sexual child abuse in America. We will present various forms of legislation and programs that have come into action over the last 100 years in order to prevent new cases of child sexual abuse from occurring and to assist victims. We will address the short and long term physical and mental dangers of sexual abuse victims. We will discuss

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how child sexual abuse often takes place in what is considered our "normal" societal structures, such as within organized religions and in the homes of military personnel. We will also address the devastating issue of child sex trafficking and how close it is to home. In conclusion we would like to share various types of therapy available for victims and provide information on identifying signs of abuse. We will analyze the effectiveness of current interventions and propose alternative resources.

### **Social Class and Daily Life**

**STUDENTS** Sydney M Coy, Elizabeth A George, Brian T Juozitis

**ADVISORS** Bobbi Sutherland

**LOCATION, TIME** Humanities 122, 3:00 PM-4:00 PM

History, Presentation - Course Project, 13 SP HST 486 P1

These papers consider the way that social class impacts daily life. Sydney Coy considers the way servants and their service changes from the fourteenth century to the eighteenth century in England. Brian Juozitis contrasts the medicine of the upper and lower classes in Europe before and after the Black Death. Elizabeth George compares the marriages of the medieval nobility to those of the peasantry and bourgeoisie, and considers both of these in relation to the understanding of marriage held by the church.

### **Student Songwriter Concert**

**ADVISORS** James R McCutcheon

**LOCATION, TIME** Kennedy Union Boll Theatre, 3:00 PM-4:00 PM

Music, Performance

Guitar students of Jim McCutcheon, UD Artist-in-Residence in Guitar, will present original songs and instrumental pieces in a one hour concert.

### **Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course**

*\*CAP CROSSING BOUNDARIES COURSE*

**STUDENTS** Megan E Berger, Mark A. Connor, Jordan M Francis, Kelly A Hanlon, Jacob A Hobbs, Cara D Jacobsen, Mark D Mehall, Jacob M Motto, David P Quinn, Jessica K Rutkousky, John C Schellinger, Meghan K Schneider, Carson M Smith, Elizabeth J Smith, Rachel M Stydnic

**ADVISORS** Arthur J Jipson

**LOCATION, TIME** LTC Meeting Space, 3:00 PM-4:00 PM

Criminal Justice Program, Presentation - Course Project, 13 SP SOC 353 01

This multimedia presentation is a discussion of the experience of the students and faculty member in a hybrid online and in-person course on Internet community. Students in this class will explain the relationship between information and communications technologies, particularly the Internet, and contemporary society. How is identity, culture, and community produced in both online and offline life.

### **Casualties of War: Iraq and the Destruction of a Culture**

**STUDENTS** Clayton W Kindred

**ADVISORS** Judith L Huacuja

**LOCATION, TIME** Marianist Hall Learning Space Commons, 3:00 PM-4:00 PM

Visual Arts, Presentation - Capstone Project

As old as time itself, the idea of a cultural identity has impacted and influenced societies large and small, ancient and modern, prosperous and waning. The notion of a cultural identity impacts every form of a society, from laws and regulations to artistic endeavors. So, what happens when this identity is destroyed, or irrevocably damaged? This ruination of culture can occur as a result of multiple scenarios, many of which, over time, have been essential and cyclical to our world's development. However, what happens when the destruction of cultural identity is the result of a modern day war? What responsibility do the warring countries hold? How could this destruction have been avoided? Modern day war is calculated, planned, swift and extremely public. Gone are the days of warring tribes, total eradication and plunder. Yet, there exists a modern day example of war senselessly destroying a cultural identity. During the March 2003 invasion of Iraq by the United States and its allied forces many irreplaceable works of art, public records and architectural monuments were destroyed. Many of these things were destroyed simply because the United States and her allies did not have a plan to deal with and save the material objects of Iraqi history. As such, my project for the 2013 Stander Symposium

## **COLLEGE OF ARTS & SCIENCES**

focuses on the United States invasion of Iraq, the subsequent destruction of an ancient cultural identity and the legacy that has been left by the defamation of the Iraqi national culture. My research focuses on the history of wartime cultural destruction, its impact on cultural treasures, and the formulation of a plan for future protection of national treasures.

**A Retrospective of Dayton Artist Zachary Armstrong****STUDENTS** Olivia S Bowman**ADVISORS** Judith L Huacuja**LOCATION, TIME** Marianist Hall Learning Space Commons, 3:00 PM-4:00 PM

Visual Arts, Presentation - Capstone Project

My research is concerned with the role of the contemporary American artist of the 21st century. As an art historian I will provide an analysis of the artist Zachary Armstrong. My research explores his role as a contemporary artist, impact on the local community, inspirations, and how he fits into the larger context of artists working in and out of art to create a living. I aspire to highlight the very recent perspectives that Armstrong reflects through his large-scale paintings and his views of Dayton, Ohio. Armstrong's work seeks to represent the playful, the beautiful and the moments that he believes exist and are necessary to observe and embrace. His variety of mediums and styles uncover his visions, passions and philosophies. Armstrong draws inspiration from and relates closely to German artists working in the 1980s. One of his idols, Martin Kippenberger, a prolific German artist who went unnoticed for most of his life, left behind an enormous body of work that ultimately brought him fame and recognition after his death. I believe it is necessary to honor both the living and the deceased for their accomplishments. Armstrong's work ethic is comparable to Kippenberger, in that both artists have an all-consuming drive to make art. Armstrong draws interest from De Kooning's spatial understanding and Picasso's efforts to paint with the freedom that children experience. He educates and immerses himself into the art world with fascination, artistic influence and ultimately an underlying appreciation of art and artists.

**Album Familiar (The Family Album): A photographic and written history of two families, two cultures, one people****STUDENTS** Stephanie E Lefeld**ADVISORS** Judith L Huacuja**LOCATION, TIME** Marianist Hall Learning Space Commons, 3:00 PM-4:00 PM

Visual Arts, Presentation - Capstone Project

Album Familiar (The Family Album): A photographic and written history of two families, two cultures, one people is a project based on stories and photographs of families' histories compiled into a book. The project compares two culturally different families: one family of German dissent that immigrated to the United States 150+ years ago, the second family of Guatemalan dissent that immigrated to the United States 25 years ago. My strategy is to create a dialogue of photography and writing in order to reach an understanding of these families' pasts and presents. This book consists of old family photographs from each family and from many generations. I use these photographs to show how old family photographs can be used to tell a story or represent a family and its culture. I will also use these photographs to describe life for a family in Guatemala compared to a family in the United States and how race and culture have become part of the families' realities in their home country and in their adopted places. I discover through these stories and testimonies important aspects of the families' cultures passed down through the generations. The photographs I selected work in conjunction with testimonies and interviews I conducted with members of the families. In addition to the book, I created large collage prints using both families' photographs to be displayed alongside.

**Creative Healing: Using Art as Therapy****STUDENTS** Kelly E Merezicky**ADVISORS** Judith L Huacuja**LOCATION, TIME** Marianist Hall Learning Space Commons, 3:00 PM-4:00 PM

Visual Arts, Presentation - Capstone Project

At this year's symposium, I present a series of paintings and an oral presentation in the Marianist Hall Learning Space. This multidimensional exhibit will include aspects of my undergraduate research in both my Visual Arts and Psychology majors, in addition to my personal experience in treating art as therapy during a significant life event. My presentation is intended to educate and enlighten others with both visual and oral elaborations of the value of creativity from a personal perspective. The goal is to gear visitors' perception of art towards a more therapeutic approach, where art is used as a healing tool. The exhibition of my personal artworks, followed by an informative oral presentation, will address the aesthetic and psychological landmarks of my emotional growth and development following a life-changing tragedy I experienced during my adolescence - the death of my mother. Over the past four years, I have channeled and essentially documented my grief visually, through painting, drawing and collage. Art encourages me to heal and grow from my loss because with art, I am free to create my own resolution and interpretation

## COLLEGE OF ARTS & SCIENCES

of the things I cannot control and often times do not understand. The artworks I exhibit in this year's symposium expose aspects of my perceptions of death, loss, abandonment and vulnerability that resulted from witnessing the gradual dissipation of my mother, as well as the ways I have tried and retried to rebuild my life as a young adult thereafter. Through creating art, I have learned (and am still learning) that the emotions that surface while creating art are ultimately the emotions that comprise the innermost core within me, and which initiate personal growth and self-confidence. My hope is that those who choose to experience this presentation also choose in the future to interpret art as more than a finished product, but as emotion communicated through the aesthetic.

### Digital Education Processed through Arts Integration

**STUDENTS** Bakist D. Edwards

**ADVISORS** Judith L Huacuja

**LOCATION, TIME** Marianist Hall Learning Space Commons, 3:00 PM-4:00 PM

Visual Arts, Presentation - Capstone Project

My project is an exploration of art and education. After researching methodologies on the integration of art as a means to enhance the experience of learning interdisciplinary studies, I reached out to the students at Adventure Central Metro Park to experience this way of learning. I developed a lesson plan and art activity focused on technology. The students were taught the basic functions of a computer, then were instructed to express their understanding using artistic concepts such as repetition, line, and point. The students used found objects, such as old computer parts, to illustrate learned concepts. I then digitized the students' images and used various techniques to produce the new works at hand. The intention of this project is to explore comprehension through artistic views.

### Elegant's Wake

**STUDENTS** Caroline M Thomas

**ADVISORS** Judith L Huacuja, Andrew Slade

**LOCATION, TIME** Marianist Hall Learning Space Commons, 3:00 PM-4:00 PM

Visual Arts, Presentation - Capstone Project

This project is an amalgamation of both writing and the visual arts, highlighting the transition from merely existing to becoming a self-aware individual. In this series of sculptures, I utilize primarily my own human hair and found objects in nature, such as branches of varying sizes, stones, and grass to explore physical and symbolic ties between feelings of femininity and the elements of earth traditionally strongly tied with place and peace. The relationships in each sculpture bring together these items to convey the sense of finding 'place and self,' a theme also reflected in the writing. This second part is a creative, non-fiction narrative comprised of vignettes or aphorisms, differing in tone and style but maintaining themes and imagery throughout. The work is intentionally vague, so as to create a personal relationship with the reader and an environment in which an individual can identify the events described within their own lives. The two media will coalesce to examine universal transitions and challenges experienced in finding the relationship between self and place.

### Photogeologic Altars

**STUDENTS** Darlin Blanco-Lozano

**ADVISORS** Judith L Huacuja, Glenna Jennings, Nathaniel C Smyth

**LOCATION, TIME** Marianist Hall Learning Space Commons, 3:00 PM-4:00 PM

Visual Arts, Presentation - Capstone Project

My work brings geologic and photographic specimens into dialogue through the use of spatial relation and material culture. I am using found geologic and photographic specimens to analyze the concepts of death, as understood through Buddhist practice. My installation Photogeologic Altars, consists of metamorphic rocks alongside Albumen Prints and Tin Types. Fossils are the burial grounds for many organisms including humans; they naturally record the lifespan of the specimen, culturally gravestones record the timeline of a life. Through my Altars, I am imagining the ceremonial release of the spirit of my photographed subjects. Here I am treating them as forgotten beings, fossilized by the photographic medium. The individual pieces are placed on the ground forcing the viewer to lower their body in order to appreciate the work. This resembles the experience of walking through a cemetery and excavation site; alike. I am interested in the ephemerality of death and the cultural obsession with recording the existence of individual life through the image making. This installation also addresses my practice as intrinsically process-based with an inseparable attention to materiality and an intellectual response to light as a transformative medium. The photogeologic installation

Photographic Altars, treats photographic and geologic specimens as records of light and existence. This installation is a materialization of my contemplations on the lived experience, cultural fabrications and humanity's position within the universe.

## **A Bad Romance: Emergency Responders and Perceptions of Human Trafficking**

**STUDENTS** Sara E Leonard

**ADVISORS** Arthur J Jipson, Anthony N Talbott

**LOCATION, TIME** St. Joseph's Hall 013, 3:00 PM-4:00 PM

Criminal Justice Program, Presentation - Capstone Project

Human Trafficking is one of the most complex crimes facing the criminal justice system. Cases involving the trafficking of men, women, and children have been reported in all fifty states in the U.S. Now, states are creating legislation and founding coalitions in a combined effort with other organizations to end the second largest transnational crime in the world. Emergency responders are generally the first individuals coming into contact with the victims of human trafficking. Their attitudes, awareness, and knowledge of human trafficking play a crucial role in combating this crime. This research is exploratory in nature and consists of an assessment of the perceptions of human trafficking held by emergency responders in Montgomery and contiguous counties in the state of Ohio. Ohio is one of the top states where human trafficking takes place. This research will assess attitudes, awareness, and knowledge regarding human trafficking among emergency responders to provide data to help improve the response to this crime. Keywords: Trafficking; Human; Perceptions; Emergency; U.S.; Ohio; Training

## **Human Trafficking: The Aftermath**

**STUDENTS** Olivia J Wilson

**ADVISORS** Dorie M Farrell, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 3:00 PM-4:00 PM

Criminal Justice Program, Presentation - Capstone Project

Repeatedly the horrendous stories of sex trafficking can be heard on the news, read about in newspapers, and seen on the Internet. Often women who are trafficked are seen as prostitutes or deviant individuals of society, rather than being seen as victims of an atrocious crime. The victims who are forced into sex trafficking are demoralized, beaten, and sexually abused by others for financial profit. Due to the disheartening nature of this crime, many Human Rights Advocates in the United States have moved the issue of sex trafficking to the forefront of their fight for equality and protection of victims. While the issue of sex trafficking has become an imperative topic in the United States, it is very rare that the effects of this struggle is understood. This study seeks to examine the effects of sex trafficking on these brave women. Data was gathered through the use of interview and online survey methodology. The findings of the research suggest that there are numerous negative effects that sex trafficking victims must endure and more support services are necessary to help the victims of this crime.

## **Sandy Hook Elementary School Shooting as a Tipping Point for Gun Policy Reform in the United States**

**STUDENTS** Nicole A Schlater

**ADVISORS** Timothy F Apolito, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 3:00 PM-4:00 PM

Criminal Justice Program, Presentation - Capstone Project

Focusing events have been widely referenced in policy studies literature as important catalysts of major policy change. In punctuated equilibrium theory and multiple streams theory, focusing events play a prominent role in explaining how major events propel otherwise dormant issues onto the agenda. However, few researchers have examined tipping points, focusing events that prompt shifts to positive feedback political subsystems. This study examines tipping points in the context of three mass public shooting incidents to examine each shootings influence on gun control issues. Findings indicated that the Newtown shooting was a tipping point for federal gun policy, since it was superior to the Tucson and Aurora shootings at drawing attention to the topic of gun control, producing policy change, and shifting the policy image of the domain. Implications for these findings on policy reform, in general, are discussed.

## **Waiting to See What's Over the Hill: Developing a Better Understanding of Older Females in Retirement Care Facilities**

**STUDENTS** Grace Margaret Pera

## COLLEGE OF ARTS & SCIENCES

**ADVISORS** Jennifer Davis-Berman, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 3:00 PM-4:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

Based on the increasingly growing population of adults aged sixty-five and older in the United States, the present study begins to examine older females' transitions from living independently into living in a retirement care facility, as females are overwhelmingly the majority of the population living in retirement care facilities today. The present study also examines the physical, mental, spiritual, and social changes that may occur when moving into a retirement care facility and how these may affect a woman's identity. Face to face, semi-structured interviews were performed with ten residents of an independent living division of a retirement care facility in southwest Ohio. Respondents talked of wishing they could live alone, but had a general acceptance of needing to live in a retirement care facility. Results cited that there were difficulties when transitioning due to a reversal of traditional roles. It is indicated in the present study that identity shifts upon aging, which results in new ways for older adults to maintain feeling of independence.

### **Express Yourself: The Relationship between Music and Depression in Yahoo! Answers**

**STUDENTS** Nicole M Kotwasinski

**ADVISORS** Jennifer Davis-Berman, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 3:00 PM-4:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

Music is a way for a person to express themselves, connect with something or someone, and release built up emotions. Listening to music can create a positive mood, and promote self-confidence and a sense of accomplishment. It can also help to cope with stress and loneliness. One of the ways that music has been influential is in the mental health field through the use of music therapy. Music therapy is an evidence-based and clinical use of music combined within a therapeutic relationship in order to address emotional, cognitive, physical, and social needs of a wide range of individuals. The purpose of the present study is to use an innovative technique to investigate the use of music and its effect. Using qualitative content analysis of the internet forum site Yahoo! Answers, 200 prints screens were gathered for two weeks. Through the use of topic coding, the content was analyzed and four major themes were obtained. The implications and limitations of this study are discussed and suggest future research in the area.

### **Political Polarization and American Voters**

**STUDENTS** Logan S Riley

**ADVISORS** Jeremy S Forbis, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 3:00 PM-4:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

A regular concern voiced by politicians and the media is the polarization of American Politics. It is often taken as a common fact that the voting population has become polarized into two camps at deadlock with one another. The truth however may not be so clear cut. Using data from the American National Election Survey this study looks to determine if political polarization has occurred. Furthermore this study looks to determine which groups specifically if any have become polarized. With this goal in mind data obtained from the American Election Survey will be undergoing secondary data analysis to determine if family income, race, ethnicity, age, Religion, and other groups have been polarized in their political positions and moves. The anticipated results are that no one category will show polarization because people are more than just their age or race they are a combination of all these things and thus have conflicting pulls based upon race, age, income level, etc. It is however possible that the results will differ from these anticipations. One such possibility for that eventuality is if certain criteria like race or socioeconomic status are consistently the master status for individuals and, thus being more determining of ones action along with their political position. Ultimately this study looks to discover whether American voters have been polarized along party lines and what groups if any have been particularly affected.

### **Hearing the Voices of the People: Community Perceptions of Coal Mining**

**STUDENTS** Amanda J Newlove

**ADVISORS** Shawn A Cassiman, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 3:00 PM-4:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project



## COLLEGE OF ARTS & SCIENCES

With the rise of industry, the consumption and use of natural resources has become embedded in the American culture. Ever since the 1800s, coal has been considered one of the most valuable natural resources this country has extracted. Coal companies have a major presence in communities across the country, and have their voices heard because of this precious resource. In the cycle of extraction, one aspect is underrepresented: the voices of the communities these coal companies are mining in. This research examines what members of Salyersville, Kentucky feel about mining, and in particular, mountaintop removal. Through the use of surveys and interviews, research was conducted in order to explore the participants' perceptions of coal mining and mountaintop removal. This research also questions what informs these understandings about the coal industry in regards to media and advertisements.

### **Educating for a Global Community: UD's African Immersion Experience Program**

**STUDENTS** Erin M Anderson, Brittany N Butler, Mark A Hawk, Marissa L Miroglotta, Emilee A Petrus, Megan C Schilter

**ADVISORS** Julius A Amin

**LOCATION, TIME** Kennedy Union 331, 3:00 PM-4:30 PM

History, Panel Discussion - Independent Research

Panelists discuss their immersion experiences in the nations of Cameroon and Zambia, and proceed to show how they were impacted. They will reflect on the meaning of those experiences on their education at UD and beyond. They will show how the experience was an awakening, and will conclude by challenging students to seriously consider an immersion experience before graduation.

### **Spaceships and Moths' Wings**

**STUDENTS** Elizabeth A Bradley

**ADVISORS** Joseph R Pici

**LOCATION, TIME** Kennedy Union 311, 3:20 PM-3:40 PM

English, Presentation - Honors Thesis

A collection of fictional short stories that explore the ways in which the Laws of Physics can be observed working beyond just the physical realm of our own lives. Human rationales versus the reality of the physical universe create a tension that illustrates the transience of beliefs, self-worth, and ambition in the world of logic and science.

### **Binding All Things Together: Charity and the Perfection of the Christian Life**

**STUDENTS** Jason A Heron

**ADVISORS** Matthew W Levering

**LOCATION, TIME** Kennedy Union 312, 3:20 PM-3:40 PM

Religious Studies, Presentation - Graduate Research

In "Binding All Things Together: Charity and the Perfection of the Christian Life," I show how Aquinas's use of scripture - especially Paul's letters - enriches his use of Aristotle, while his use of Aristotle illuminates the scriptural themes of charity and perfection.

### **A Voice for the Marginalized: Analyzing the impact of gender mainstreaming initiatives on lives of rural women in the Republic of Malawi**

**STUDENTS** Allison M Varricchio

**ADVISORS** Jason L Pierce

**LOCATION, TIME** St. Joseph's Hall 221, 3:20 PM-3:40 PM

Political Science, Presentation - Independent Research

The Republic of Malawi, despite its vast topography and warm hearted citizens, represents one of the most densely populated, underdeveloped, poverty-stricken states in the global community. The high levels of extreme poverty and unequal distributions of resources in Malawi have resulted in numerous developmental issues including HIV/AIDS, malnutrition and high illiteracy rates. In addition to these developmental issues, notions of gender inequality are prevalent. Malawian women typically are without a voice both within their homes and within governmental affairs. Without a voice, women are treated as invisible members of society, and ultimately have no control over their social and economic freedoms. Women's empowerment initiatives aim to transform the role of women in society to lessen the gender inequality found within Malawi. However, women's empowerment at the local level has not been a sufficient tool in overriding the engrained societal norms dictating the gender roles

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which marginalize and oppress women. Therefore, the Malawian government has been implementing gender mainstreaming tactics in hopes of diffusing gender norms to promote equality and prosperity for women, specifically in rural areas. This research intends to explore how the Malawian government is promoting gender mainstreaming and analyze the impact, if any, it is having upon the lives of women at the local level.

### **Searching for Meaning in Violence: A Study of Southern Thailand**

**STUDENTS** Brennen R Bradford

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** St. Joseph's Hall 231, 3:20 PM-3:40 PM

Political Science, Presentation - Course Project, 12 FA POL 300 04

For the better part of the last decade Thailand's south has been a warzone. In 2011, violence once again flared up in the southern region of Malay Pattani. Muslims from the region are seeking to break away from predominantly Buddhist Thailand, because they feel marginalized due to their minority status, inhabit this area. This essay will seek to examine the factors that have led to the extreme forms of violence that have been displayed during this conflict. First the essay will provide some background on the conflict, next reasons for the violence will be examined, and the essay will conclude with possible solutions that will end the bloodshed.

### **Minimalism: The Music and Influence of Steve Reich on Percussion Music, Composition, and Performance**

**STUDENTS** Adam N Hayslett, David A Middleton, Troy A Newlove, Joshua A Parker, Rebecca E Welch

**ADVISORS** James M Leslie

**LOCATION, TIME** Sears Recital Hall, 3:30 PM-4:30 PM

Music, Performance - Independent Research

Steve Reich is a well-known modern composer whose exploration into the world of minimalism has influenced music in the present day and age. Through this presentation, percussion students will discuss the compositional process in minimalism, specifically as it relates to Reich's works "Music for Pieces of Wood" and "Clapping Music." Musical themes explored will include gradual transformation of rhythms, additive process, and phase shifting. "Clapping Music" will be performed as an interactive work with the audience members.

### **Enhanced O<sub>2</sub>Electrocatalysis by a Highly Conjugated Cobalt (II) Porphyrin**

**STUDENTS** Allison C Eder

**ADVISORS** Shawn M Swavey

**LOCATION, TIME** Kennedy Union 211, 3:40 PM-4:00 PM

Chemistry, Presentation - Honors Thesis

A fuel cell has high efficiency, mechanical simplicity, and low pollutant output. Fuel cells convert chemical energy to electrical energy by oxidizing a fuel (e.g. hydrogen or methanol) at the anode and reducing molecular oxygen at the cathode. The catalyst is essential for the cell to run continuously. Currently platinum serves as the catalyst for oxygen reduction in most fuel cells. Platinum is limiting to the large scale production of fuel cells because it is expensive and easily poisoned. Cobalt porphyrins have been studied for their electrochemical properties for the ability to serve as a replacement for the Platinum catalyst. Cobalt (II) tetraphenyltetranaphthoporphyrin, with extended conjugation at the pyrrole units, was synthesized and analyzed for its spectroscopic and electrocatalytic properties. The created complex displayed the ability for the reduction of oxygen in acidic fuel cell conditions, in which over 50% of the oxygen was reduced by four electrons to water.

### **Words and Revolution: Female Political Awakening in Julia Alvarez's "In the Time of the Butterflies"**

**STUDENTS** Coral V Flamand Mendez

**ADVISORS** Thomas L Morgan

**LOCATION, TIME** Kennedy Union 311, 3:40 PM-4:00 PM

English, Presentation - Honors Thesis

I will examine how Julia Alvarez's female protagonists undergo a political and feminist transformation during the Trujillo dictatorship in the Dominican Republic. Furthermore, I will draw connections between the typical structure of a coming-of-age novel and the development of a political identity and agency.

**Doi Moi and Vietnam: Renovation to Continue or Time for a New Blueprint?****STUDENTS** Michael E Foskey**ADVISORS** Anthony N Talbott**LOCATION, TIME** St. Joseph's Hall 231, 3:40 PM-4:00 PM

Political Science, Presentation - Course Project, 13 Sp Pol 300 04

This presentation focuses on the nation of Vietnam and its continual efforts to achieve economic recovery from the damage the Vietnam War inflicted on the country. Focusing on the Vietnamese government and the policies that have been enacted since the war ended nearly 40 years ago, particular emphasis is placed on looking at "Doi Moi," an economic policy originally enacted in 1985 that sought "Renovation" for Vietnam. Looking at the works of several analyses surrounding the tracking of Vietnam's recovery, the presentation will seek to include examination of certain economic factors, as well as measurable factors pertaining to the population's well-being, from over the years since the Vietnam War ended, in order to critically examine how effective the government has been in their policy for economic recovery. The more recent economic success and struggles in Vietnam from over the past decade will be examined in particular, given the recent "Great Recession" of 2008 that has impacted the global economy, and some examination will be done with current government of Vietnam as to their performance and utilization of knowledge to contributing towards the country's economic success. Finally, a conclusion will be drawn from the analysis of all of these scholarly works to determine whether the current Vietnamese government is being as effective as they could be, as well as whether Doi Moi should be continued or replaced with a new policy for Vietnam's economic prosperity.

**The Historical Horn: A Digital Resource Guide to Rare and Historical French Horn Recordings and Performers****STUDENTS** Mitchell A McCrady**ADVISORS** Richard K Chenoweth**LOCATION, TIME** Kennedy Union 207, 4:00 PM-4:20 PM

Music, Presentation - Honors Thesis

This project, a look at the great horn players of the past, brings their music, sound, and stories back to the musicians of today. Working with numerous vinyl records from a personal collection and through the use of modern digitalization technology, these once inaccessible albums are now open for public consumption. Excerpts from these profound and definitive recordings can be accessed online through a website created specifically for this project and in complete hard copy form through the Department of Music. This project also investigates the digitization process, notes on media copyright, and the importance of preserving recordings like these for future generations.

**Protocol Standardization of Microvesicle Quantification by Flow Cytometry Reveals a Correlation to Healthy Donor Total Body Weight****STUDENTS** Kyle P Rismiller**ADVISORS** Matthew E Lopper**LOCATION, TIME** Kennedy Union 211, 4:00 PM-4:20 PM

Chemistry, Presentation - Honors Thesis

Microvesicles are vesicles released from the plasma membrane of cells during programmed cell death or activation and are of interest in clinical settings as they may be predictive of early signs of disease and/or treatment progression. In recent years there has been increased interest in using an instrument analysis process known as flow cytometer as a means of high-throughput quantification and multiparametric examination of microvesicles. However, there are growing concerns with using conventional flow cytometry for detection and quantification of microvesicles due to error-sources in collection through to physical limitations in detecting the micron-scale microvesicles. Presented here is a standardized method for collection and analysis which demonstrates that microvesicles quantified by conventional flow cytometry correlates to healthy donor total body weight. Although unlikely all-encompassing, this finding strongly supports the notion that flow cytometry remains one of the few useful and valid tools widely available for the analysis of microvesicles.

**Tapered Optical Fibers for Aqueous and Gaseous Phase Biosensing Applications****STUDENTS** Ighodalo U Idehenre, Branden J. King**ADVISORS** Karolyn M Hansen, Joseph W Haus, Peter E Powers, Andrew M Sarangan

## COLLEGE OF ARTS & SCIENCES

**LOCATION, TIME** Kennedy Union 222, 4:00 PM-4:20 PM

Biology, Presentation - Graduate Research

This study focuses on the design, fabrication, and characterization of tapered optical fibers for label-free, biomolecular sensing in both aqueous and gaseous environments. Single mode fibers were tapered to a diameter of approximately 10 microns allowing for the propagation of multiple modes that create an interference pattern in the output signal. The physical dimensions of the tapered fibers were measured for use in multimodal output simulations, which were then compared to the empirically determined output signal. Tapered regions serve as the sensing interface, such that the light propagating through/around the fiber interacts with molecules tethered to the tapered surface. Tapered regions are functionalized with biomolecules for capture/detection of analytes in both aqueous (antibody) and vapor phases (DNA, peptides). Molecular binding of analytes with recognition molecules changes the refractive index and the thickness of the biolayer, which can be measured as a phase shift in the output. The sensing platform (fiber and PTFE flowcell) was designed such that the device could be fabricated quickly and economically. This study will include a discussion on refinement of surface chemistry (molecular layer thickness) to maximize molecular interactions for detection of low concentrations of analytes. We envision the use of tapered optical fibers in array format for detection of multiple analytes in complex samples for biomedical (blood, saliva, breath), environmental, and homeland security applications.

### **Evaluation of Downtown Dayton Community Interest in a Local Foods Market**

**STUDENTS** Katherine A Liutkus, Kelly Miller, Alexandra E Neal

**ADVISORS** Daniel C Fouke, Jonathan C Jones, Sukhjinder S Sidhu

**LOCATION, TIME** Kennedy Union 312, 4:00 PM-4:20 PM

SEE, Presentation - Course Project, 13 SP SEE 402 H1

In the City of Dayton, there is both interested parties and political capital for the implementation of a permanent downtown local foods storefront. The point of our research is to attempt to determine through a community based survey if the marketplace does in fact warrant more development in this area. The information we gather will help tailor the goals of the parties interested in achieving the creation of a downtown local food market. This information will include demographic data, current shopping trends and perceptions, and community willingness for involvement in creations and operations. The data we gather through this survey is intended to provide direction for the structure of a downtown market, whether in the form of a food cooperative or other form of nonprofit model. Once our data is collected, we hope to have an idea of the specific needs and desires of the community in relation to a centralized distribution point for local agricultural production in the down-town Dayton area.

### **Megachurch-Based Regionalism: Exploring the Practices of Urban-Suburban Partnerships, Regional Branch Campuses, and Regional Church Plants**

**STUDENTS** Emily E Bright, Adan H Hassan, Connor P Reilly

**ADVISORS** Joshua Ambrosius

**LOCATION, TIME** St. Joseph's Hall 221, 4:00 PM-4:20 PM

Political Science, Presentation - Course Project, 13 SP POL 300 05

Protestant megachurches (congregations with greater than 2,000 weekly attendees) represent an unprecedented concentration of resources, including millions of dollars in revenue and a ready-made audience of thousands, many of whom are willing to serve as volunteers or advocates in the church or community. These typically-evangelical churches are often stocked with white suburbanites and sited at the metropolitan fringe where populations are high and land is cheap, although urban megachurches with majority-black congregants are represented as well. By virtue of their sheer size, these churches must reject the parish model of targeting the host neighborhood and instead must draw parishioners from throughout the metropolitan region. The large amounts of revenue further permit the megachurch to provide services across a broader geographic range. We label this emphasis on reaching the urban region as a whole with church programming and services as Megachurch-Based Regionalism (MBR). Regionalism, as used in the field of urban policy and politics, describes cross-community sharing of resources in metropolitan areas. This regional paradigm and its terminology are useful in describing megachurch regional identities and service delivery methods. Three types of regionalism prevalent in megachurches (and also some smaller churches, to a lesser extent) include the establishment of (I) urban-suburban partnerships, (II) regional branch campuses, and (III) regional church plants. These three strategies favor decentralized service delivery but demonstrate varying degrees of decentralized authority. This study explores the prevalence of these three regional partnership models and, by collecting exploratory data, establishes hypotheses for further work on this topic. We collect data by sampling 160 random congregations nationally from

the Hartford Institute Database of Megachurches in the U.S. and pairing them with variables generated from phone calls and analyses of church webpages. Furthermore, we plan a more in-depth case study of the eight megachurches located in the Dayton Metropolitan Statistical Area.

## **Economic Success In Southeast Asia**

**STUDENTS** Robert P Thomas

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** St. Joseph's Hall 231, 4:00 PM-4:20 PM

Political Science, Presentation - Course Project, 13 SP POL 300 04

Looking at the Southeast Asian region as a whole, I will be comparing and contrasting economic policies that affect tariffs, GDP/GNI, as well as other empirical indicators. Economic policies as well as other areas that correlate like education, health, and happiness will all be taken into account. I hope to outline and explain why there has been so much economic success in the Southeast Asian region, for example Laos and Thailand.

## **Religion and Daily Life**

**STUDENTS** James H McDaid, Michael L. Saltis, Zachary J Splain

**ADVISORS** Bobbi Sutherland

**LOCATION, TIME** Humanities 122, 4:00 PM-5:00 PM

History, Presentation - Course Project, 13 SP HST 486 P1

These three papers address the impact of religion and religious identity on daily life. Michael Saltis' paper addresses the development of the Knights Hospitaller and their connection and response to the rise and fall of chivalry and their subsequent development as a service order. Zachary Splain presents a narrative account of Jewish identity in Germany in 1400 and 1700, considering how changes relate to issues of community formation. James McDaid looks at the way the church's understanding of adultery did not always match that of the laity in medieval Europe.

## **The Science Beyond the Art of Voir Dire: A Physiological Approach to Examining the Influence of Attraction on Jury Deliberation.**

**STUDENTS** Kevin Longacre

**ADVISORS** Arthur J Jipson, R Matthew Montoya

**LOCATION, TIME** St. Joseph's Hall 013, 4:00 PM-5:00 PM

Criminal Justice Program, Presentation - Capstone Project

Voir dire is deeply rooted in American adjudication for civil and criminal jury trials. When the prosecution and defense are given the opportunity to conduct investigative questioning, both parties formulate questions to expose any bias that may inhibit the neutrality of jurors. The current method is dependent on the skill of the lawyers and the accuracy of the information provided by the jury candidates. The purpose of this research is to recognize the implications of current jury selection practices that rely on self-report information, reveal the pervasive influence of physical attraction (as measured through attractive, unattractive, or no visual images of faces), and demonstrate how this bias can influence punishment. The current project is based on two experiments that build on research conducted by Landy and Aronson(1969) to reinforce how physical appearance may have adverse effects on a fair trial.

## **The Effects of the use of Force by Police Officers**

**STUDENTS** Stephen J. Metzger

**ADVISORS** Dorie M Farrell, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 4:00 PM-5:00 PM

Criminal Justice Program, Presentation - Capstone Project

Many criminal justice studies students are interested in the field of policing. One of the largest controversies among law enforcement is the use of force by police officers. Since the horrific tragedy at the Empire State Building last year, many scholars have been considering the topic of the use of force in general and deadly force in particular. A qualitative project was undertaken through interviews with police officers in the Dayton, Ohio area and an online survey of undergraduate college students. The law enforcement officers' and students perspectives on the use of force and the public perception of the use of force are examined. The comparison of these subjects assist in the understanding of how police use of force not only affects the officers themselves but the people they are sworn to protect.

## **COLLEGE OF ARTS & SCIENCES**

### **The Price for their Protection and Service: Domestic Violence in Police Families.**

**STUDENTS** Neil Hubbert

**ADVISORS** Jeanne A Holcomb, Arthur J Jipson

**LOCATION, TIME** St. Joseph's Hall 013, 4:00 PM-5:00 PM

Criminal Justice Program, Presentation - Capstone Project

Police officers are society's soldiers in keeping lawlessness deterred. Their stressful work gets taken home with them which cause negative consequences for themselves and their family. This research answers the question does job burnout, job violence, and job rank have an effect on domestic violence rates in police officers. The data was collected for this research using a secondary data analysis method from a federally funded data set researched by Robyn Gershon. Through manipulation of Gershon's data set, it was concluded that a correlation exists between burnout and exposure to violence in relation to domestic violence rates in police families. This research project will assist in the further understanding of how to prevent domestic violence cases and rates in police families.

### **Refining the Visualization of Community Nutrition Environments: An Assessment of Multiple Methods of Geospatial Analysis in Dayton, Ohio, USA**

**STUDENTS** Andrew R. Kowalski

**ADVISORS** Jeremy S Forbis, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 4:00 PM-5:00 PM

Sociology, Anthropology, and Social Work, Presentation - Course Project, 13 SP SOC 409 01

The community nutrition environment has been a continued focus of attention for public health researchers, sociologists, geographers, public administrators and many others. Most geographic studies have conceptualized the community nutrition environment by measuring the spatial distribution of large retail grocery stores. Public health studies have expanded upon this simple measure by terming nutrition accessibility as a function of the availability and price of healthy foods in comparison to unhealthy foods. Although these studies have advanced the understanding of community nutrition environments, these definitions still fail to provide a complete representation of the complex and multi-leveled model of the community nutrition environment. This study's objective is twofold: to progress current community nutrition environment measures to account for the factors of accessibility as determined by the availability, price, and quality of healthy and unhealthy foods with respect to distance, and to determine a 'best practice' for geographically visualizing nutrition environments by testing multiple methods of geospatial analysis. Demographic data of City of Dayton (OH) census tracts from the 2010 U.S. Census will be used to select a neighborhood of median socioeconomic level and balanced racial composition to serve as the area of focus. Retail food sources will be determined by network analysis to provide a study area within pedestrian and automobile access of the neighborhood. A detailed characterization of the retail food sources will be obtained through on-site data collection. Using this data, various geospatial analyses will be used to construct geographic visualizations. These analyses and their outputs will be compared to test their reliability and validity. This assessment will determine a 'best practices' for visualizing the community nutrition environment and suggest further approaches and refinements of measurement and analysis.

### **The University of Dayton: A Living Wage?**

**STUDENTS** William H. McCadden

**ADVISORS** Shawn A Cassiman, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 4:00 PM-5:00 PM

Sociology, Anthropology, and Social Work, Presentation - Capstone Project

A living wage is one which is sufficient to cover the basic costs of living for an individual and her family. Whether people who work on the University of Dayton's campus receive a living wage will be examined. Furthermore, the nature of the power relations between workers and employers at the University of Dayton will be explored. Using qualitative methods, the experiences and attitudes of both workers and members of the UD Living Wage Campaign, which was started to increase wages and benefits for certain groups of people who work on the University of Dayton's campus, will be studied. Collected data will be examined for overarching trends.

### **Refugees in Dayton: The Job Search & Employment Experience in their New Home**

**STUDENTS** Erin L Gahimer

**ADVISORS** Theophile J Majka, Leslie H Picca

**LOCATION, TIME** St. Joseph's Hall 023, 4:00 PM-5:00 PM**Sociology, Anthropology, and Social Work, Presentation - Capstone Project**

Within the last several decades, the number of refugees in the world has dramatically increased putting pressure on Western nations to address this issue. The United States, along with other developed nations, participates in refugee resettlement efforts to assist refugees in integrating into their homes. Self-sufficiency through economic adaptation is of central concern to individual resettlement agencies, as well as to the broader U.S. refugee resettlement program. The present study examines the concept of incorporation of recent refugees into local institutions in Dayton, Ohio. Specifically, it focuses on institutional incorporation in the economic sector through a two-part examination of refugees' experience with the job search and their experience in the American workplace. The exploration of this topic relates to the broader issue of the accessibility of mainstream institutions in the community for refugees and how this affects their integration. Through collaboration with Catholic Social Services of the Miami Valley, approximately a dozen refugee study participants from a variety of ethnicities, nationalities, cultures, and languages are identified as research subjects. Through qualitative, semi-structured interviews, participants share their experiences related to the job search and the American workplace. The qualitative interviews explore the challenging and rewarding aspects of the American employment experience of these newcomers in relation to such factors as English proficiency, past work experience, and credentials earned in the country of origin. The research also explores how refugees are reconstructing their idea of self in their new host society and, specifically, how this identity reconstruction is played out in the refugees' workplace setting.

**Health Inequity and the Racial Minority Experience****STUDENTS** Andrew C Urban**ADVISORS** Theophile J Majka, Leslie H Picca**LOCATION, TIME** St. Joseph's Hall 023, 4:00 PM-5:00 PM**Sociology, Anthropology, and Social Work, Presentation - Capstone Project**

Good health. It seems so straightforward. Eat right, exercise and get regular checkups. Yet achieving and maintaining good health is a battle Americans of all economic levels are losing every day. In the United States, if an individual is poor, less educated or a minority, the prospects of living a long healthy life is significantly worse than if they're more affluent, better educated, or white. A person's health is as much about where you live, work and play as it is about whether you have access to good quality care. This purpose of this study is to investigate the utilization and access specific neighborhoods of color have to quality medical care. The National Center for Health and Statistics covers a wide range of health inequalities experienced by racial or ethnic minorities ages 18-64 from the year 2000-2010. Specific data reveals decisions made by minority populations to delay the receipt of medical care due to cost. Another major determinant of seeking medical care is health insurance coverage and there's data that shows private coverage has decreased and uninsured and Medicaid has increased. According to this study and others just like it, racial health disparities are not due just to disadvantages experienced by members of non-white groups, but also to the advantages experienced by white people.

**Can Singapore's Public Housing Successes be Replicated Elsewhere?****STUDENTS** Jonathan P Nelson**ADVISORS** Anthony N Talbott**LOCATION, TIME** St. Joseph's Hall 231, 4:20 PM-4:40 PM**Political Science, Presentation - Course Project, 13 SP POL 300 04**

This presentation will focus on the public housing policy in Singapore. An astounding number of Singaporean citizens reside in public housing, with over 80% of the population dependent on this system. The tiny nation of Singapore, however, has shown that positive, constructive social successes can be achieved through a system of effective public housing policy. A healthy and progressive economy has supported Singapore's ability to maintain and develop a progressive and unique public housing system. This article will identify economic indicators that could indicate exactly how Singapore's public housing policy differs from other nations in the SEA region, that is, what aspects of the Singaporean structures distinguish it and make it unique. These indicators include but are not limited to GDP, PPP, growth rate, and unemployment rate. Next, this article will comparatively analyze the Caribbean island nation of Jamaica. The purpose of this comparative analysis will be to see if there is any potential correlation between economic indicators and the ability of each country to support an effective public housing policy. Through an examination of economic indicators, strategies for the successful implementation of an effective public housing program could involve an intense focus on the improvement of specific economic and social gauges.

## **COLLEGE OF ARTS & SCIENCES**

### **Paying After Freedom: The Post-Revolutionary Issues of Former Socialist States**

**STUDENTS** Anna K Brod

**ADVISORS** David J Watkins

**LOCATION, TIME** St. Joseph's Hall 221, 4:40S PM-5:00 PM

Political Science, Presentation - Honors Thesis

An examination of the issues that countries in Eastern Europe experienced after their respective Communist regimes fell. 4 case studies look to compare the different problems these countries faced as they pursued democratization and political legitimacy, and what this means for other countries experiencing regime changes.

### **Is Buddha Writing the Prescriptions in South East Asia?**

**STUDENTS** Michael J Joubert

**ADVISORS** Anthony N Talbott

**LOCATION, TIME** St. Joseph's Hall 231, 4:40 PM-5:00 PM

Political Science, Presentation - Course Project, 13 SP POL 300 04

In this paper I will examine the relationship between the religions and health care policies of South East Asia. This will aim to discover if there is an actual correlation between the religion of a nation, and that nation's health care policies. Examining how health care policies positively or negatively affect the overall health of a country, how influential religion is in each country and what the predominant religion is gives insight into what areas of South East Asia have better health care systems and why. To further understand this topic data about other areas of the world must also be considered. This will help increase the scope of our understanding into what factors impact health care policies. After taking into account other regions of the world as well as other factors besides religion that influence public policy we can form a picture of how the health of South East Asia is impacted by religion. After gathering all the data and learning about not only South East Asia but also other regions of the world it is clear that religion has an impact on all public policies in one way or another. In South East Asia the combination of religion and forms of ancestor worship have developed into policies that at least aim to protect the health of the people. However this is not always effective due to large amounts of public discourse that takes place in the region. In conclusion we can find the influence that religion has on the health care system of South East Asia however the actual impact is not always felt in the quality of health care in South East Asia.



## How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality

**STUDENTS** Basel M Alajmi, Emily C Baldwin, Daniel T Bertolo, Trey T Billing, Katherine M Boone, Cameron M Braig, Joseph M Bucaro, Daniel N Buerkle, Erik J Butt, Charles G Connolly, Bryan A Cunningham, Laura E Ferry, Mary Meg M Gerbich, Justin P Gregory, Michael J H

**ADVISORS** Barbara Heroy John

**LOCATION, TIME** Miriam Hall 103, 8:00 AM-4:00 PM

Economics and Finance, Oral Presentation - Course Project, 13 SP ECO 346 01

Markets and organizations are often celebrated for their potential to achieve harmony (efficiency and socially optimal outcomes). The corollary is that any interference with market mechanisms and organizational imperatives should be contemplated with caution. But market outcomes may not be desirable, or durable. Traditional violations of the perfectly competitive model--such as the presence of external effects (negative spillovers) or market power (monopoly and monopsony) or informational asymmetries ('lemons' and insider information)--have always been invoked to justify government intervention. But new work in behavioral economics implies yet more ways that regulation may be rationalized. If human behavior is not rational or predictably irrational, market outcomes may not only fall short of optimality; market outcomes may also prove unpredictable and unstable. Bubbles and panics more generally, financial crises--suggest that we should revisit regulation of financial markets. This presentation will consist of a montage of instances--historical, theoretical, hypothetical and actual--that invite us to ponder the issue of government regulation of economic institutions: markets and organizations.

## Projecting Stock Price Movements with Fair Value Analysis

**STUDENTS** Gianina E Alagia, Jessica Thomas

**ADVISORS** Robert D. Dean

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Davis Center for Portfolio Management, Poster - Independent Research

Financial analysts generally agree that the present value of a firm's future stream of discounted cash flows presents its intrinsic or fair value. If the actual price of a firm's common stock is above or below this intrinsic value, an efficient market will cause the mispricing to quickly disappear. In this study we use Morningstar's Fair Value Price, based on a three phase discounted cash flow model, as a proxy for the true intrinsic value of a firm. The hypothesis we plan to test is that mispricing causes a "revision to the mean" or a price movement toward fair value. Using the 30 stocks in the Dow Jones Industrial Average as our test sample we created a fair value index (FVI) for each stock.  $FVI_{it} = FV_{it}/P_{it}$  FV<sub>it</sub> is the Morningstar fair value price and P<sub>it</sub> is the actual stock price for the *i*th stock at time *t*. If  $FVI_{it} > 1$  we expected the actual price to move up. If  $FVI_{it} < 1$  we expected the actual price to fall. Our testing consisted of evaluating the price movements for the Dow Jones Industrial stocks for the years 2009-2012. We evaluated the quarterly returns for each Dow Jones Industrial stock to determine whether the fair value index was an accurate indicator of future returns during the testing period.

## Using Normalized P/E Ratios to Project Future Stock Price Movement

**STUDENTS** Matthew Chkautovich, Dimitrios G Tsiribas, Alex H Van Tiem

**ADVISORS** Robert D. Dean

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Davis Center for Portfolio Management, Poster - Independent Research

Many financial analysts prefer to normalize a firm's key drivers of growth i.e., revenues and earnings, in order to obtain a clearer picture of its financial prospects. In this study, we look at a sample of stocks from the Dow Jones Industrial Average to evaluate normalized price-earnings ratios. Using 5 and 10 year averages of earnings and current price i.e.  $P/NE$ , we compare the Normalized Price-Earnings Ratio to the firm's price-earnings ratio with current earnings. If  $P/NE$  is greater than  $P/CE$ , we would expect  $P/CE$  to trend upwards especially over short periods of time. If  $P/NE < P/CE$ , we would expect  $P/CE$  to trend downward. In both cases, we would expect the stock price to be the primary mover over short periods of time, i.e. 6-12 months. We test our hypothesis for the year 2012 based on 10 years of previous data.

## Developing a Valuation Based Portfolio of Dow Jones Stocks

**STUDENTS** Patrick W Hull, Benjamin F Rudman

**ADVISORS** Robert D. Dean

# SCHOOL OF BUSINESS ADMINISTRATION

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Davis Center for Portfolio Management, Poster - Independent Research

In this study, we create a portfolio of Dow Jones stocks based on valuation rather than price of market cap weight. Our hypothesis is that giving higher portfolio weights to these stocks that are most undervalued will increase portfolio returns. Using a fair value index based on Morningstar fair value prices for each Dow Jones stock, we create a portfolio weighting model. Using the period of 2009-2011 for analysis, we compare the returns of the Dow Jones fair value portfolio to the Dow Jones weighted portfolio. We also divide this period into three sub periods; the rebound period (2009), the growth period (2010), and the trading range period (2011) and compare the performance of our Dow Jones fair value portfolio to the Dow Jones price weighted portfolio.

## **Portfolio Investment and Weighting Strategies for High Quality Stocks 2008 to 2011: A Study in Portfolio Management**

**STUDENTS** Mary H Viertel

**ADVISORS** Robert D. Dean, John E Rapp

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Davis Center for Portfolio Management, Poster - Honors Thesis

In highly volatile market periods, many investors tend to reduce their risk by purchasing higher quality stocks. The purpose of this study is to evaluate the returns of different portfolio weighting strategies on portfolios of high quality stocks over an observed volatile market period. In this study, I examine two overall investment strategies: (1) size: defined as market capitalization, and (2) growth vs. value: defined as price to book ratio during the period of 2008 to 2011. This time period includes the year 2008 as the model for a downswing period, 2009 for a rebound period, 2010 for an upswing period, and 2011 for a trading range period. I use mock portfolios of one million dollars to evaluate the performance of the portfolios over time. Within the two investment strategies, I weight the portfolios by several weighting mechanisms including size (market capitalization), valuation (price to book ratio), profitability (return on assets), and operating efficiency (operating margin). In essence, I want to determine which overall investment strategy has the best returns for the overall period, the downswing period, the rebound period, the upswing period, and the trading range period. Within those strategies, I want to see which portfolio weighting mechanism works best.

## **Evaluating the Performance of Ohio Schools: A Nonparametric Analysis**

**STUDENTS** Angela R Brancatelli, Shae M Brennan, James D Horne, John G Ruggiero

**ADVISORS** John G Ruggiero

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Economics and Finance, Poster - Course Project, 13 SP ECO 498 P1

We investigate the performance of schools in Ohio using Data Envelopment Analysis, a nonparametric mathematical programming model. While per pupil spending on education has increased dramatically over the last two decades, large variations in spending exist. Expenditures vary for three main reasons: differences in achievement, costs and efficiency. Given the amount of resources provided to schools, we seek to identify the schools that are operating efficiently, i.e. producing outcomes at minimum cost. We employ a conditional convexity model to control for the socio-economic environment faced by schools.

## **An empirical analysis of growth and value portfolio performance in the highly volatile market period 2008-2012; a study in portfolio management**

**STUDENTS** Michael L Hermes

**ADVISORS** Robert D. Dean, Elizabeth F Gustafson

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Economics and Finance, Poster - Course Project, 13 SP FIN 498 P2

The purpose of this study is to measure and evaluate the return performance of portfolios of growth and value stocks during the short term, highly volatile market period, 2008-2012. Several academic studies have concluded that value outperforms growth over long periods of time. To date, there are no empirical studies that evaluate growth and value strategies over short term, highly volatile market periods. In this study, I will look at the performance of growth and value portfolios for the overall period, 2008-2012, the downswing period from 12/31/2007-3/31/2009, the rebound period from 3/31/2009-12/31/2010, and the trading range period from 12/31/2010-12/31/2012. I will also divide growth and value

## SCHOOL OF BUSINESS ADMINISTRATION

stocks into ten portfolios, each with a gradient from aggressive growth to value trap. I use price to book to define growth and value; at the extreme a P/B ratio equal to or greater than seven will define aggressive growth and a P/B ratio less than one will define value trap. The portfolio will be rebalanced at the end of 2009, 2010, and 2011 to take into account changing price to book ratios over time.

### Using Relative Valuation and Earnings Momentum to Measure the Returns to Stocks within Industry Groups

**STUDENTS** Christopher R Cole, Samuel W Orman

**ADVISORS** Robert D. Dean, Elizabeth F Gustafson

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Economics and Finance, Poster - Independent Research

Several academic studies indicate that measures relative valuation (e.g. price to book, price to earnings, etc.) are useful predictors of stock returns. The working hypothesis is that stocks with lower price to book and price to earnings ratios are considered undervalued and have greater prospects for outperformance in the near term. Unfortunately, strongly undervalued stocks may be undervalued for a reason ' their earnings prospects are bleak! In this study we combine relative valuation measures with earnings momentum measures to determine stock performance. Using stocks within four industry groups, two each from consumer staples and consumer discretionary sectors, we use cross sectional regression analysis to test our hypothesis. The period of analysis is 2011-2012. The database finviz provides the data for the study.

### The Role of Safety and Risk in the Returns to Stocks in Volatile Markets

**STUDENTS** Hayley J Douglas, Mark F Kocoloski

**ADVISORS** Robert D. Dean, Elizabeth F Gustafson

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Economics and Finance, Poster - Independent Research

The period 2008-2012 in the stock market has been characterized as highly volatile. During the period, it was not uncommon to see the Dow Jones Index up or down 200 points in one day. One would expect, therefore that risk adverse investors would be using a flight to safety investment strategy. If this is indeed the case, we should expect stocks with lower debt to equity, higher dividends, and dividend yields to outperform. To test this hypothesis we select the 10 worst performing industry groups and the 10 best performing industry groups in 2012 and compare their average and median metrics for debt to equity, dividend levels and dividend yields. We would expect the top performing industry groups to have lower debt to equity ratios, and higher levels of dividends and dividend yields.

### Relative Strength, Sector Weighting, and Sector Returns: A Portfolio Analysis for the Period 2008-2012

**STUDENTS** Matt G Putbrese, Joseph E Skarbek

**ADVISORS** Robert D. Dean, Elizabeth F Gustafson

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Economics and Finance, Poster - Independent Research

The Flyer Fund uses a top down approach to determine which S&P sectors it should invest in. The general approach is to use macroeconomic indicators (e.g. expected GDP growth) to determine sector weighting. In this study we use measures of relative price movements (relative strength) to determine sector weights. Treating each S&P sector as if it were an individual stock, we create a 10 stock portfolio and compare its performance to the S&P 500 over the period 2008-2012. Our research design calls for the portfolio weighting to be based on the inverse of relative strength for each sector. The approach enables us to give higher weighting to the more undervalued sectors. Rebalancing of sector weights is done at the end of each year in the study.

### A Quantitative Approach to Selecting Industry Groups within Sectors for Investment: The Case for Relative Strength and Capture Ratio Analysis

**STUDENTS** Christine A Ferry, Rachel J Kilbury

**ADVISORS** Robert D. Dean, Elizabeth F Gustafson

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Economics and Finance, Poster - Independent Research

## **SCHOOL OF BUSINESS ADMINISTRATION**

There are 10 S&P sectors and 212 industry groups within these sectors. The industry groups represent a similar mix of stocks in terms of what they reduce and sale. In this study we use relative strength and capture ratio analysis to determine which industry groups are likely to outperform the market. We use 4 industry groups each from the consumer discretionary and healthcare sectors to test our models. Based on relative strength indexes, the first model evaluates whether the most undervalued industry groups outperform their sectors. In the second model, capture ratios in period t are used to evaluate industry group performance in period t + 1. Since the relative strength indexes and capture ratios are calculated on a monthly basis, we will evaluate both models on a monthly, quarterly, and yearly basis for the period 2008-2012.

### **A Cross Sectional Analysis of Returns to S&P Industry Groups Over the Trading Range Period, 2011-2012.**

**STUDENTS** Catherine M Moerman

**ADVISORS** Robert D. Dean, Elizabeth F Gustafson

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Economics and Finance, Poster - Independent Research

A missing element in the top down stock selection approach used by the UD Flyer Fund is the relative valuation of industry groups i.e. those groupings of firms below the sector level. In this study I analyze the relationship between returns to S&P industry groups and five different measures of relative valuation: (1) Price to Earnings (2) Price to Earnings (Forward) (3) Price to Book (4) Price to Cash Flow and (5) Price to Sales. Using a small but stratified sample of 18 industry groups (8 of 10 S&P sectors are represented), I regress returns on each of the relative valuation measures for two time periods: (1) 9-30-11 through 9-30-12 and (2) 12-31-11 through 9-30-12. I use R square, the B coefficients and their T statistics to measure the relationship between returns and the relative valuation measures.

### **OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2**

**STUDENTS** Jason W Bruner, Emma R Dallagrana, Miles J Decrane, Gregory D Fetter, Madeline K Fox, Marissa P Gladieux, Sean O Holdmeyer, Stephen J Jira, Natalie Anne Lantz, Harry J Lenzen, Robert E McClurg, John G Muir, Ryan E O'Boyle, John W Pirages, Derek M Sexton,

**ADVISORS** Michael F Gorman, John J Kanet

**LOCATION, TIME** Miriam Hall 104, 11:00 AM-12:00 PM

MIS, OM and Decision Sciences, Oral Presentation - Capstone Project

This is the first of a 2-part presentation of OPS 495 senior consulting projects. Included in this group are GE Aviation: Airbus A320 Nacelle Logistics Optimization; University of Dayton On-Campus Shuttle Scheduling; University of Dayton Strategic Transportation Needs; GE Aviation: Global Procurement Optimization.

### **UD Business Plan Competition: Insights from the Finalists**

**STUDENTS** Robyn L Bradford, Danielle L Detrude, Steven Majkowski, Diane M Sullivan

**ADVISORS** Diane M Sullivan

**LOCATION, TIME** Miriam Hall 109, 11:00 AM-12:00 PM

Management and Marketing, Panel Discussion - Independent Research

In this panel discussion, student members of the five finalist and alternate teams from the 2012-2013 UD Business Plan Competition (UDBPC) will discuss their experiences in the competition. Presenters will include members from finalist teams ChurchLink and MyEndoShop and alternate team ShakeAlarm. Through the panel discussion, the participants will comment on what they learned through participating the competition as well as their impressions of the competition. Finalists will also comment on and describe the support provided to them throughout the competition. Additional time will be provided for audience members to ask questions to the finalists about their experiences.

### **Flyer Enterprises: The Experience**

**STUDENTS** Jason M Eidam, Sarah M Peck

**ADVISORS** Janet R Leonard

**LOCATION, TIME** Miriam Hall 214, 11:00 AM-12:00 PM

Oral Presentation - Independent Research

# SCHOOL OF BUSINESS ADMINISTRATION

This presentation will provide students with information on what the Flyer Enterprises experience entails. We will be discussing what the company does, what we have learned from our experiences and how it relates to the students of UD. Join us to find out more about the impact FE can have on your life!

## **MANDATORY AUDITOR ROTATION: A REVIEW AND ANALYSIS OF RESEARCH FROM THE LAST DECADE**

**STUDENTS** Ben E Foster

**ADVISORS** Robert K Larson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Accounting, Poster - Honors Thesis

Mandatory Auditor Rotation (MAR) continues to be a highly contested issue within the financial community and since the Public Company Accounting Oversight Board's (PCAOB) recent concept release in August of 2011 on MAR there has been an increased level of interest in the issue. If the financial community and general public are to have an informed debate on such an important topic, then the interested parties need to have access to independent information on the matter in order to develop educated opinions on what is best for the markets. Unfortunately, the last true synthesis of such information came in 2004 when the Government Accountability Office (GAO) published a study on MAR as required by the Sarbanes-Oxley Act (SOX). This thesis is intended to be used by others to educate themselves with up-to-date knowledge of research available on MAR. This thesis will review issues such as the impact if any, of audit firm rotation on audit quality, the cost implications of MAR, the effect of MAR on market participant's perceptions of auditor independence, and the experiences of countries adopting mandatory audit firm rotation. I present the arguments and research, use the information to offer my own advice to policymakers and regulators on what will be best for the markets. The work creates a synthesis of the independent information available on MAR which will allow policymakers as well as the public to form a more educated opinion on what is the best path to take.

## **Estimating Productivity of Australian Schools Using a Public Sector Malmquist Measure**

**STUDENTS** Shae M Brennan, John G Ruggiero

**ADVISORS** John G Ruggiero

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Economics and Finance, Poster - Capstone Project

In this paper, we extend the theory of productivity to allow for nondiscretionary inputs in the production process. In education, for example, it is well documented that student performance depends not only on school resources but also on the socioeconomic status of the student. We decompose economic productivity into scale, technical, environmental and efficiency changes. The new model is applied to analyze productivity and efficiency of Australian schools using 2009 and 2010 data.

## **Capitalizing on Chaotic Currencies: An Analysis of Algorithmic Trading Before and After the Global Financial Crisis**

**STUDENTS** Westin D Stahl

**ADVISORS** Ting J Zhang

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Economics and Finance, Poster - Honors Thesis

The global financial crisis sent shockwaves to financial markets all over the world. Stock markets crashed, housing prices plummeted and central banks all over the world took actions to prevent further asset devaluation. This period of global uncertainty is showcased best by the large price swings in the foreign exchange markets. The FX market is highly speculative, and the market conditions that resulted from the crisis have opened the door to algorithmic trading, or automatically executed trading to profit from price movements. My thesis examines the conditions in the FX markets that allow algorithmic traders to earn high returns. I have created a basic algorithmic trading strategy for a basket of currency pairs to showcase the profitability of algorithmic trading before and after the crisis. While many investors stay away from the FX market, I will prove that following the longer term price trends can be a great way to further diversify your portfolio's returns.

# SCHOOL OF BUSINESS ADMINISTRATION

## City of Dayton Economic Development Incentive Programs: Costs and Benefits

**STUDENTS** Stephen L MacKell

**ADVISORS** Trevor C Collier

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Economics and Finance, Poster - Honors Thesis

The City of Dayton Economic Development Office currently employs two unique incentive programs to attract businesses to grow and locate within the city limits. These programs cost the taxpayers significant amounts of money while also providing profits to our local economy in the form of a bolstered tax base for the city government. The goal of the thesis is to compare the two programs using two different cost benefit economic analysis methods and provide a recommendation for increased efficiency to the city based upon the results of the analysis.

## OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2

**STUDENTS** Matthew David Barrett, Sean F Clary, Kelly L Coakley, Samuel J Deluca, Sam C Ginikos, Weijie Gu, Ross P Gueltzow, Robert A Jones, Kelsey A Kendall, William J. Kingsolver, Brian C. Larsen, Michelle Z Ma, Catherine M Moerman, Curtis J Polette, Joseph R Reli

**ADVISORS** Michael F Gorman, John J Kanet

**LOCATION, TIME** Miriam Hall 104, 1:00 PM-2:00 PM

MIS, OM and Decision Sciences, Oral Presentation - Capstone Project

This is the second of a 2-part presentation of OPS senior consulting projects. Included in this group are Flowserve Corp.: Target Product Inventory Evaluation; NewPage Corp.: Coated Paper Market Forecast Analysis; American Trim: Production Cell Analysis; Standard Register Corp.: Warehouse Assignment Analysis.

## The UD-SBA Flyer Angels Fund: Student Insights on Being Business Angels, and Making High-Tech Private Equity Investments

**STUDENTS** Cole P Aston, Gerald P Kierce, Tricia Lammers, Colin T McGrath, Andrea Morrison, Eric A Roberts, Peter J Schweers, Mark A Zimmerman

**ADVISORS** Jay J Janney

**LOCATION, TIME** Miriam Hall 109, 1:00 PM-2:00 PM

Management and Marketing, Panel Discussion - Independent Research

UD Alumnus Ron McDaniel presented UD with a 7 figure gift to launch a student run private equity portfolio, now in its third year. UD is currently one of only three universities in the United States offering this type of experience to undergraduates. If schools have a private equity fund, it is staffed either college graduates or MBA students. A selective admission program, Flyer Angels partners with the nation's largest Business Angel Network (Ohio Tech Angels) as a member of OTAF funds III and IV. UD is a full member in these two funds. Nearly every month students perform due diligence on potential investments, present their findings to the entire membership, vote on whether to fund the company, and whether or not Flyer angels should invest additional money in the deal (aka "sidecar investment"). Flyer Angels has made several sidecar investments the past three years. The students will talk about their experiences, what major surprises they have had, how this ties to the Entrepreneurship course MGT 321, and what they like/dislike. Questions from the audience are especially welcome. Due to the confidential nature of the investments, the students cannot identify specific companies where they have conducted due diligence or made an investment, other than at a very general, non-identifying level. Flyer Angels is open to all Entrepreneurship Majors, targeting those in the junior year.

## Becoming a World Citizen through Studying Abroad

**STUDENTS** Julie E Destefanis, Grace Lisa Pregent, Yaimarie Queeman, Patrick Sorg, Peter G Wagner

**ADVISORS** Peter G Wagner

**LOCATION, TIME** Miriam Hall 119 - O'Leary Auditorium, 1:00 PM-2:00 PM

MIS, OM and Decision Sciences, Oral Presentation - Independent Research

University students increasingly realize that learning about and understanding cultural diversities make us all better world citizens. Also, for School of Business Administration (SBA) students, international experience is almost a prerequisite for securing a first-rate job after graduation.

## SCHOOL OF BUSINESS ADMINISTRATION

How can students expand their international horizons while still maintaining a high level of academic accomplishment? University international programs may provide the answer. Programs such as faculty-led summer study abroad, semester exchanges, internships, and service programs, to name a few, provide opportunities for students to become world citizens by embracing unfamiliar and diverse cultures in rigorous educational environments. This session will inform students on becoming a world citizen through relating impacts that international experiences have had on the student presenters.

### **The Sophomore Entrepreneurial Experience Course**

**STUDENTS** Dominic P Magnon, Adam R Marasco, Andrew J Novak, Patrick D Orlet, Matthew Stephen Potter, Carson Scheidler, Paul Andrew Sozio, Marc Carl Torchio, Lisa C VonDrasek, Maria M Zampino

**ADVISORS** Robert F Chelle

**LOCATION, TIME** Miriam Hall 214, 1:00 PM-2:00 PM

Crotty Center for Entrepreneurial Leadership, Oral Presentation - Course Project, 13 Sp Mgt 221 01

The highly acclaimed Sophomore Entrepreneurial Experience course is the first course for entrepreneurship majors in the School of Business. In its 14th year, this experiential course has operated 120 micro-companies. Specifically, besides attending normal classroom lectures, teams of students form and propose ideas for a product or service to pursue, select the best of class ideas and test the validity of the proposal through market research. After confirming the legitimate opportunity before them, each team uses a \$5,000 loan from the university to purchase product or acquire assets for a proposed service. Issues such as securing a reliable vendor, competitive pricing, developing distribution channels, learning about personal selling, leadership, logistics, accounting, human resource issues and finally closing the company are mastered in this linked two semester course.

### **Premier Health Partners Operating Room Dashboard**

**STUDENTS** Stacey N Breitbarth, Jordan D Deleon, Eric M Jensen, William W McCormick

**ADVISORS** Harvey G Enns

**LOCATION, TIME** Miriam Hall 207, 2:20 PM-2:50:00 PM

MIS, OM and Decision Sciences, Oral Presentation - Capstone Project

Premier Health has requested that the UD Premier Health Partners team (UD PHP) set out to standardize Turn-Around-Time (TAT) and Room Utilization (RU), two operating room metrics, across their hospital network. By standardizing TAT and RU, UD PHP aimed to provide the client enterprise visibility by recommending commonly-defined metrics for hospitals to compare to each other. UD PHP worked to define these definitions by investigating each hospital's unique reporting methods. UD PHP conducted interviews with surgical leaders and reporting managers who possessed knowledgeable details pertaining to the TAT and RU data recording process. UD PHP's recommendation for the standardized metrics of TAT and RU needed approval from Data Governance Board at Premier Health before it could be implemented network-wide. The Premier Health Data Governance Board recommended an internal team move forward with determining the final recommendation of the standardized definition of the metrics. As the process of approving a standardized final recommendation is a time consuming task, Premier Health proposed a new project for UD PHP to gain exposure to dashboarding and the extract, transform, and load (ETL) process before the end of the semester while allowing the internal team to finish UD PHP's initial project. UD PHP was then asked by Premier Health to create a dashboard for an approved set of standardized operating room metrics: Volume Counts, Post Anesthesia Care Unit Length of Stay, Timing Events Counts, and Timing Events Minutes. The dashboard will provide a means for comparing these metrics across the network of hospitals as well as reporting capabilities. UD PHP will be utilizing three dashboard design tools to create the dashboard for Premier Health allowing for the necessary level of detail. The dashboard designed will be tested and implemented by Premier Health's Analytics Department to be accessed in all hospitals under the Premier Health umbrella.

### **The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences**

**STUDENTS** Cole P Aston, Gerald P Kierce, Steven Majkowski, Colin T McGrath, William G Meyer, Kimberly R Murray, Yaimarie Queeman, Eric A Roberts, Peter J Schweers, Mark A Zimmerman

**ADVISORS** Jay J Janney

**LOCATION, TIME** Miriam Hall 109, 2:20 PM-3:20 PM

Management and Marketing, Panel Discussion - Course Project, 13 Sp Mgt 422 N1

# SCHOOL OF BUSINESS ADMINISTRATION

Now in its 6th year, the SOE-SBA collaboration is a signature piece to the Entrepreneurship's national Rankings. This innovative program pairs groups of engineers and entrepreneurship majors in order to address the actual needs of entrepreneurs hoping to launch new products. There are generally 3-5 engineers and 2-3 entrepreneurship majors to each team. Entrepreneurship students get to pick which project they want. The teams meet in the SOE's innovation center weekly (either in a 10am class or a 2pm class, Monday or Wednesday) during the fall semester, where the engineers analyze technical feasibility concerns, for the sponsor, and the entrepreneurship majors analyze market feasibility. These findings are then presented to the sponsor. During the spring semester the entrepreneurship students enroll in Mgt 429, where they complete a full business plan for the sponsor. In addition, during the fall semester the teams enter the UDBPC; over the past six years 8 teams have been named finalists or alternates, winning over \$30,000. During this panel discussion 10 entrepreneurship majors will discuss their experiences, and answer any questions you may have. Their four projects involve creating a new handheld inflator (for car tires, mattresses, etc.), a softball batting swing trainer, an industrial vertical conveyor system, and a video game controller for physically challenged children. This last one money in the UDBPC came round, and is the subject of video being distributed nationally by the Kern Foundation. This program is targeted at Entrepreneurship majors, but marketing majors seeking an elective may find it very insightful as well. It's a great way to hear from the entrepreneurship students, and to get honest feedback on what it is like to work with engineers, as well as the surprises and challenges it creates.

## An Overview of the Flyer Fund Security Selection Process

**STUDENTS** Andrew F Brackmann, Matthew J. Buse, Eric T Flanigan, Samuel B Girouard

**ADVISORS** Robert D. Dean

**LOCATION, TIME** Miriam Hall 118 - Davis Center, 2:20 PM-3:20 PM

Davis Center for Portfolio Management, Oral Presentation - Independent Research

The Flyer Fund uses top-down and bottom-up investment strategies to select a portfolio of stocks. In the overview we describe the bottom-up strategy dealing with security selection. The topics to be discussed include: 1. Organization 2. Investment Style 3. Economic Outlook Development 4. Security Analysis a. Watch List b. Red-Light Green-Light System c. Other Tools 5. Buy-Sell-Hold Decisions

## The Procter & Gamble Marketing Challenge

**STUDENTS** Irene J Dickey

**ADVISORS** Irene J Dickey

**LOCATION, TIME** Miriam Hall 214, 2:20 PM-3:20 PM

Management and Marketing, Oral Presentation - Independent Research

How do businesses really make a meaningful impact? How do they really win? They do it by working hard to understand their customers and what they want and giving them more! Learn how Procter & Gamble, the world's largest consumer packaged goods company with over 300 brands in over 200 countries does it with the help of University of Dayton Marketing Students. The P&G Marketing Challenge is a competition between teams of our best students working to solve P&G's immediate business problems and opportunities. The program is defined by the use of key data and research, P&G strategy frameworks, creative critical thinking and problem solving, and intense coaching by P&G managers and UD faculty and student advisors. Come learn how these students do it all and really impact business!

## Speedway Pay Period Verification System

**STUDENTS** Fatma H Abbas, Justin A Grau, William J. Kingsolver, David P. Mooney

**ADVISORS** Harvey G Enns

**LOCATION, TIME** Miriam Hall 207, 2:50:00 PM-3:20 PM

MIS, OM and Decision Sciences, Oral Presentation - Capstone Project

Speedway LLC, a gas station and convenience store chain headquartered out of Enon, OH has consulted with the University of Dayton Management Information System Department to automate the pay period verification process. A team of Management Information System seniors was assembled to provide Speedway with a recommendation about how to automate this process. Currently, employees clock in and out using their fingerprint at a portal located in the back area of each store. Pay periods end every week on Wednesday night at which point management approves the hours worked. Employees are then paid accordingly the following Monday. After employees are compensated, a report is generated and printed off detailing the shifts and hours worked for the pay period. Employees are then asked to view and verify (through a signature) that the hours worked are accurate. This verification record is used as proof in disputes or legal cases that the employee was in fact compensated correctly. The process for collecting and storing these verifications is quite manual. Often signatures are not collected, or occasionally lost in the storage



# SCHOOL OF BUSINESS ADMINISTRATION

process. Retrieving records can also be cumbersome as these files are either at the store or district manager's office and are not always the most organized. Speedway has asked UD for a recommendation about how to automate the verification collection and storage process.

## **DP&L Asset Tracking System**

**STUDENTS** Evan M Ruggiero, Ryan P. Sheedy, Joseph E Thomas

**ADVISORS** Harvey G Enns

**LOCATION, TIME** Miriam Hall 207, 3:40 PM-4:10:00 PM

MIS, OM and Decision Sciences, Oral Presentation - Capstone Project

The Dayton Power & Light (DP&L) project focuses on the planning, analyzing, developing, and implementing of an asset tracking system for DP&L. The purpose of the asset tracking system is to track information technology assets owned by DP&L. As of now, the IT assets only consist of servers, laptops, workstations, and thin clients. Networking equipment may be added to the system in the future. Currently, the system lacks a consolidated database and structure. Our team is addressing these issues by using Microsoft SharePoint as a database and InfoPath to create a form for the assets to populate the database.

## **Beta and Alpha: Using Excel to Measure Portfolio Risk and Performance**

**STUDENTS** Wenzhe Chen, Shaonan Peng

**ADVISORS** Ting J Zhang

**LOCATION, TIME** Miriam Hall 214, 3:40 PM-4:10:00 PM

Economics and Finance, Oral Presentation - Course Project, 13 Sp Fin 460 01

This project uses Excel modeling to measure a portfolio's systematic risk (beta) and risk-adjusted return (alpha). Beta is defined as a stock or portfolio's sensitivity to the overall stock market risk (whereas the SP500 index is used as a proxy for the stock market). Alpha, also known as Jensen alpha, is defined as a stock or portfolio's return after adjusted by its market risk level. Our data are daily returns for a mutual fund from 200 to 2007. The key questions to be addressed are: (1) What is the systematic risk of the mutual fund? (2) Does the mutual fund beat the market? We regress the mutual fund excess returns on the S&P500 index. Beta is measured the regression coefficient and alpha is measured by the intercept. Next we evaluate the significance of both beta and alpha based on t-values to determine the mutual fund risk-level and its risk-adjusted performance. The theoretical work for this project is Jensen (1968).

## **An Overview of the Top-Down Investment Process for the Flyer Fund**

**STUDENTS** J Ross Hallman, Jacob A Recker

**ADVISORS** Robert D. Dean, Elizabeth F Gustafson

**LOCATION, TIME** Miriam Hall 118 - Davis Center, 3:40 PM-4:40 PM

Economics and Finance, Oral Presentation - Independent Research

The Flyer Fund uses both top down and bottom up strategies to build a portfolio of stocks. In this presentation we describe the process used to determine which S&P 500 sectors should be over or underweighted. Topics to be covered are: (1)U.S. macroeconomic indicators (2)Economic Indicators for Developed and Developing Countries(3)The Relationship between Economic Indicators and S&P Sectors(4)Developing Sector Weights(5) Data Sources for Economic Indicators

## **Intelligence Resumé Management System**

**STUDENTS** Jack Capodice, John R. Collins, Anthony J. Savio

**ADVISORS** Arthur R Santoianni

**LOCATION, TIME** Miriam Hall 207, 4:10:00 PM-4:40 PM

Information Technology, MIS, OM and Decision Sciences, Oral Presentation - Capstone Project

Intelligence currently uses MS Word documents in a repository folder to keep track of all their employees' resumes. Currently, the company uses a staffing solution, Tenrox, to keep track of various skills their employees have, but these skills are high level and unspecific. In order to look up more specific information on their employees, they must pull up resumes individually and manually search them. Also, intelligence wishes to keep all the resumes in a consistent standardized format, but the current system has no way of enforcing this. Thus, the University of Dayton Senior Project team was approached with the task of researching solutions based on the following functionality:- Each user must have a unique username and password in order to be granted access to the system.- The administrative role within the resume management system must have

## **SCHOOL OF BUSINESS ADMINISTRATION**

the ability to create users within the system. - Administrators must have the ability to access individual users and update the functionality they are granted. Administrators must also be able to update the status of a specific user, either active or inactive. - The system must have the ability to automatically standardize the format of users' resumes in an identical fashion, including but not limited to font, size, style, and sections within the resume. - The system must act as a repository of resumes, maintaining the current version of users' resumes as well as past versions. - Users must be able to access the system through a web-hosted environment. The solution should be able to support access through Google Chrome, Internet Explorer 8, Firefox, and Safari.

### **Poverty Alleviation in Malawi: An Investigation into the Challenges Faced by Microfinance Institutions**

**STUDENTS** Justin J Jennewine

**ADVISORS** Trevor C Collier

**LOCATION, TIME** Miriam Hall 214, 4:10:00 PM-4:40 PM

Economics and Finance, Oral Presentation - Honors Thesis

Despite the widespread notoriety the microcredit systems received during the 1980's and 90's for their potential to drastically reduce world poverty, very little information exists about the successes or failure of the countries that replicated and implemented such systems; one of those countries is Malawi. Located in the south eastern portion of Africa, Malawi adopted a similar model to the one created by Muhammad Yunus for the original microcredit operation - The Grameen Bank. My study seeks to examine how a microfinance operation within Malawi appears to have had little impact on the poverty levels of the people and how this is possible when a very similar system was wildly successful in other countries. Interviews with the operators of the microfinance institutions in Malawi provides a glimpse of some of the subtle cultural impediments and country-specific problems that have not allowed for a successful microfinance operation to form there. This research is one of the few which looks into the workings and successes of the microfinance system in Malawi and can potentially provide feasible suggestions to Malawi and countries experiencing similar problems. This project will contribute to any future research on similar topics.

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

### **Research on Student Achievement in p-12 Schools**

**STUDENTS** Alyssa C Bojarski, Sarah C Thomas, Riley Catherine Weber

**ADVISORS** Susan M Ferguson, Kathryn A Kinnucan-Welsch

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Center for Catholic Education, Poster - Course Project, 13 SP EDT 110 H1

Standards for the teaching profession emphasize the importance of awareness, understanding, and integration into practice of current research in education. The goal of the EDT 110H1 class project was to present syntheses of related literature on pertinent topics to p' 12 education.

### **Research on the Relationship between Policy and Practice in p-12 Schools**

**STUDENTS** Kaitlyn Nicole Burke, Rachel Maria Cain, Matthew B Leff

**ADVISORS** Susan M Ferguson, Kathryn A Kinnucan-Welsch

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Center for Catholic Education, Poster - COURSE PROJECT, 13 SP EDT 110 H1

Standards for the teaching profession emphasize the importance of awareness, understanding, and integration into practice of current research in education. The goal of the EDT 110H1 class project was to present syntheses of related literature on pertinent topics to p' 12 education.

### **Research on Private p - 12 Schools in the United States**

**STUDENTS** Margaret Mary T Riley, Rachel Leah Schuler, John S Welsh

**ADVISORS** Susan M Ferguson, Kathryn A Kinnucan-Welsch

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Center for Catholic Education, Poster - Course Project, 13 SP EDT 110 H1

Standards for the teaching profession emphasize the importance of awareness, understanding, and integration into practice of current research in education. The goal of the EDT 110H1 class project was to present syntheses of related literature on pertinent topics to p' 12 education.

### **An Inductive Approach toward Understanding the Legal Parameters of Student Speech Regarding Social Media Technology**

**STUDENTS** Curtis R Nash

**ADVISORS** Charles J Russo

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Educational Leadership, Poster - Course Project, 13 Sp Edu 919 P1

The objective of this research is to explore and synthesize the seminal legal literature regarding student free speech within the context of social media technology in order to aid college administrators in the formation of student speech policy. There are numerous court decisions and legal casework regarding student free speech in schools. Additionally, many of these cases include student use of social media technology such as Facebook and Twitter. Further even, there are legal findings pertaining to free speech and social media technology within a higher education framework. This piece takes an inductive approach to understanding this legal phenomenon where specific examples and works of research are examined to form general knowledge of the legal parameters of student speech regarding social media technology. As college student use of social media technology becomes more prevalent on campuses, it is vital that the college administrators understand the legal boundaries of this emerging issue. This study will inform university administrators' understanding of the legal issues that they and their students face in order to create policy that protects those within the university and aids in the development of students.

### **The History of Physical Education-Activity and Sport: Stories for the Ages and Lessons from the Legends of Memorable Moments, Events, Trends, Tales, Phenomena, and Famous Women and Men: Their Teams and Times - Semester VII**

**STUDENTS** Sean M Collins

**ADVISORS** George M DeMarco

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Health and Sport Science, Poster - Course Project, 13 SP HSS 275 01

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

The purpose of these studies was to describe and interpret major events, trends, phenomenon, and the lives and times of significant individuals in the history of sport and physical education-activity throughout the millennia. At once interesting, inspirational, edifying, and enlightening, the stories told by the students of three (3) separate sections of the course HSS 275 - History of Physical Education/Activity and Sport during the spring semester of 2013 speak powerfully to the transcendent nature of sport and physical activity across all generations, cultures, and topical interests. This year's project titles include: Modern Day Arete and Agon: The Roller Coaster History of the Cleveland Browns; Joe Pilates and the Advent of Whole Body Exercise- The Salute: How Tommie Smith, John Carlos, and Peter Norman Catalyzed the Civil Rights Movement and Changed the Olympics Forever- The History and Influence of Religion and Spirituality in Sport- Olympic Strides: The Life and Times of Joan Benoit- 99 Years of Futility: The History of Wrigley Field - From Pain to Podium: The Story Behind Kerri Strug's Golden Vault- Miracle On Ice: The Story of the 1980 US Olympic Hockey Team and How It Reignited a Nation- The Evolution of Chronic Pain Treatment in Physical Therapy. These original research projects utilized an array of primary and secondary sources, including interviews, personal narrative, documents, print media, photographs, artifacts, and vintage video to bring alive the past to teach anew life's lessons from which all may learn.

### **The Effectiveness of a Personalized Peer Physical Education Program the Health Related Physical Fitness, Diet, and Attitudes Toward Exercise/Diet of Selected College Students**

**STUDENTS** Kimberly A Sherman

**ADVISORS** George M DeMarco

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Health and Sport Science, Poster - Course Project, 13 SP HSS 428 01

The purpose of this major course research project was to determine the effectiveness of a Personalized Peer Physical Education Program on the cardiovascular endurance, muscular strength/endurance, flexibility, body composition, diet, and attitudes toward exercise/diet of selected college students (N=27). During the 2013 spring semester, students in an undergraduate research methods course science exercised w/peers during eight (8) separate sessions. Team members participated in four (4) sessions conducted during class time and four (4) sessions conducted outside of class. Two (2) additional separate sessions were allocated for pre- and post-testing. Students were divided into 5 separate research-fitness teams. Each team designed exercise programs inclusive of body-weight training, Dynaband Resistance Training; Fartlek training, aerobic dance, slow sustained static stretching, and Proprioceptive Neuromuscular Facilitation (PNF). A quasi-experimental mixed-method design was utilized. Quantitative measures included the President's Challenge Adult Physical Fitness Test, Borg Critical Rating Scale, and Super Tracker at ChooseMyPlate.gov. Descriptive and inferential statistics were calculated via the use of PASW/SPSS v19. Hypotheses will be tested at the .05 level of significance. Sources of qualitative data included (a) interviews/questionnaires and (b) fitness journals-nutritional logs. Qualitative data will be subject to content analysis via the theoretical/ analytical framework of Symbolic Interactionism (Blumer, 1969). Case histories will be constructed and all measures of pre- and posttest data will be compared to determine the effectiveness of the PPPEP on students' HRPF, diet, and attitudes toward exercise. It is (a) hypothesized that all quantitative measures of students' HRPF and diet will improve as a result of participation in the PPPEP and, (b) theorized that students' health/exercise histories/journal entries will reveal positive attitudes toward exercise in general and the PPPEP in specific.

### **Teaching Methods, Strategies, and Procedures for English Language Learners in Early Childhood Education**

**STUDENTS** Ashley E Stoetzel

**ADVISORS** Beverly Ann Tillman

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Teacher Education, Poster - Honors Thesis

Immigration into the United States has led to English Language Learners (ELLs) being represented in PreK-12 classrooms across the US. Students with a first language other than English are required to be proficient in English in order to gain knowledge in the classroom, communicate effectively with teachers and peers, and participate in standardized assessments which are state and nationally mandated for school-age students. Unfortunately, much of the research on effective strategies for this population focuses on older aged ELLs. This study documents strategies that the current research has deemed effective and appropriate for working with ELLs in a preschool setting. This research was then compared with current strategies reported in a survey of local early childhood educators who work with ELLs in their classrooms. The researcher documented trends in the survey data and offered suggestions for strategies and further research.

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

### **Examining Literacy Practices Utilized to Support Latino Primary Aged Students that Respect Family and Culture**

**STUDENTS** Libby M Durnwald

**ADVISORS** Patricia M Hart

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Teacher Education, Poster - Course Project, 13 SP EDT 340 01

Due to the demographic shift in the United States, by 2030, forty percent of students in the United States will not speak English as their first language (Freeman, 2008, 31. This means that schools in the United States need to modify their instructional approaches to more effectively meet the needs of a culturally diverse population. One instructional method that has been implemented to better meet the needs of Latino students is bilingual and dual-literacy instructional methods. These methods have been established in other countries to improve literacy and language acquisition skills of students. Additionally, both programs incorporate student's family and culture, which has been shown to attribute to student's educational success. Geddes Elementary, in Baldwin Park, California, has implemented dual-literacy instructional methods to better meet the needs of their Latino students. The program's goal is to maintain positive ethnic and cultural relationships between educators, students, and their families while allowing students to maintain and develop language skills in both their native language (Spanish) and English. This study seeks to provide educators with identified evidence based instructional strategies that include some use of the students' native language while enhancing the literacy abilities of primary aged Latino English Language Learners, and respecting the students' families and culture.

### **Research on Standardized Tests in p-12 Schools**

**STUDENTS** Benjamin R Brandel, Megan L Brown, Owen T Flanagan, Margaret M Quinn

**ADVISORS** Susan M Ferguson, Kathryn A Kinnucan-Welsch

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Teacher Education, Poster - Course Project, 13 SP EDT 110 H1

Standards for the teaching profession emphasize the importance of awareness, understanding, and integration into practice of current research in education. The goal of the EDT 110H1 class project was to present syntheses of related literature on pertinent topics to p' 12 education.

### **Research on Instruction in p-12 Schools**

**STUDENTS** Mary Elizabeth Backer, Shannon M Hogan, Robyn Anne Sprock

**ADVISORS** Susan M Ferguson, Kathryn A Kinnucan-Welsch

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Teacher Education, Poster - Course Project, 13 SP EDT 110 H1

Standards for the teaching profession emphasize the importance of awareness, understanding, and integration into practice of current research in education. The goal of the EDT 110H1 class project was to present syntheses of related literature on pertinent topics to p' 12 education.

### **Research on Roles and Practices that Engage Multiple Stakeholders in p-12 Schools**

**STUDENTS** Veronica Lynn Colborn, Megan J Woolf

**ADVISORS** Susan M Ferguson, Kathryn A Kinnucan-Welsch

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Teacher Education, Poster - Course Project, 13 SP EDT 110 H1

Standards for the teaching profession emphasize the importance of awareness, understanding, and integration into practice of current research in education. The goal of the EDT 110H1 class project was to present syntheses of related literature on pertinent topics to p' 12 education.

### **The Themes of Catholic Social Teaching integrated into the work of UD's Center for Catholic Education's (CCE) Urban Child Development Resource Center (UCDRC)**

**STUDENTS** Julie A Iuliano

**ADVISORS** Susan M Ferguson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Center for Catholic Education, Poster - Honors Thesis

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

The learning needs of students in classrooms are impacted by more than their academic needs. There are the non-academic barriers to learning that educators must be sensitive to in working with students. The Center for Catholic Education's Urban Child Development Resource Center (UC-DRC), works in five local schools in the Dayton area, striving to help students cope with these social and emotional barriers to learning. This study examines the data from the impact of the UC-DRC's programs and connects it to three of the seven Themes of Catholic Social Teaching, as stated by the United States Conference of Catholic Bishops. These seven themes include: Call to Family, Community, and Participation; Option for the Poor and Vulnerable; and Care for God's Creation.

### **Social Capital Development in Higher Education: A Cross-Case Analysis**

**STUDENTS** Thomas Mays

**ADVISORS** Carolyn S Ridenour

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Educational Leadership, Poster - Graduate Research

A college student's academic experiences and post-graduate outcomes can be shaped by their social relationships with faculty, administration, staff, and fellow students. Also known as social capital, this network of relationships and resources can benefit students during and after their college careers. Social capital research involving higher education has primarily focused on measures of groups and networks, often including the roles of family, community, and institutions in social capital development. While the literature includes insight into social capital and higher education, research lacks in the area of how social capital development compares between institution types as defined by level of education (two-year and four-year) and organizational control (public, private, or for-profit). This distinction is important because of the differences in social backgrounds of students that gravitate towards specific institution types. Social capital should be identified as an additional layer of the college curriculum, adding another dimension beyond the accumulation of knowledge and experience. To research social capital development in higher education, I am designing a study that examines social capital using a mixed-methods cross-case comparison design. An instrument developed by Grootaert, Narayan, Jones, and Woolcock (2004) and used by the World Bank will be used for quantitative data collection, while interviews, observations, and document analysis will be implemented for qualitative data collection. My poster will detail the literature review, social capital model, and research methodology that are a part of my ongoing dissertation research.

### **Preparing Pre-Service Teachers to work with English Language Learners**

**STUDENTS** Alexandra N Hill

**ADVISORS** Stephen B Richards

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Teacher Education, Poster - Honors Thesis

English Language Learners (ELLs) can be mis-identified as students with special needs. Teachers often watch these students struggle in school and assume they have a cognitive delay, when in reality; they may just be struggling with their language delay. To be identified as needing special education services, these students undergo assessments to test their abilities. These assessments were created for students who speak English. Studies have shown that 'Familiarity with Standard English accounts for more than 50% of the total test variance on IQ and achievement test measures for fourth graders and 60% to 90% of the variance for seventh graders' (Abedi, 2002). Therefore, ELLs are put at a further disadvantage during the testing period. If placed in a special education program, the student rarely receives the language instruction needed. The current structure creates an environment where ELLs can easily be misplaced into special education programs where they will continue to fall further behind in their education. To prevent this problem, pre-service teachers need to gain experience with ELLs so that they can give them the instruction and support they need. Not all pre-service teachers have access to classroom with ELLs. In order to try to replicate this experience, instructors turn to video case studies that show pre-service teachers authentic footage, assessments, and class work of an ELL. The goal of this research is to determine the effects of video case studies on pre-service teachers, and what questions were generated as a result of the in class clinical experience. References: Abedi, J. (2002). Measuring instructional quality in accountability systems: Classroom assignments and student achievement. *Educational Assessment*, 8(3), 231-257.

### **Efficiency, Adequacy, and Equity in Educational Funding**

**STUDENTS** Grace M Callahan

**ADVISORS** Thomas J Lasley, Robert A Taft

**LOCATION, TIME** Kennedy Union 311, 1:00 PM-1:20 PM

# SCHOOL OF EDUCATION & ALLIED PROFESSIONS

Teacher Education, Oral Presentation - Honors Thesis

This is an examination of the public educational system in the United States, with emphasis on the relationship between school resources and student performance. There are multiple inputs that effect a student's education; some are controlled by a school district, while others are not. Of these inputs, or resources used in the education of students, many are directly tied to a monetary sum. Therefore, in this general examination, resources were equivalent to expenditures. The particular focus was on an analysis of urban school districts in Ohio. The research study questioned whether a correlation exists between student performance and expenditures per-pupil in each district. This study gives some insight into the relationship between these two variables and provides a foundation upon which more research can be done.

## **Mechanical Effectiveness of a Combined Gait Modification Strategy to Reduce Knee Adduction Moment: Increasing Trunk Lean and Foot Progression Angle**

**STUDENTS** Lydia K Caldwell

**ADVISORS** Joaquin A Barrios

**LOCATION, TIME** Kennedy Union 312, 1:00 PM-1:20 PM

Doctor of Physical Therapy, Oral Presentation - Graduate Research

Gait modification patterns have emerged as an effective means for reducing medial knee joint load as measured by the knee adduction moment (KAM). The purpose of this study was to evaluate the mechanical effectiveness of three experimental gait patterns: increased ipsilateral trunk lean (TL), increased foot progression angle (FPA) and a combination pattern (CP) of the two. It was hypothesized that TL would reduce first peak KAM, TO would reduce second peak KAM and the CP would reduce the KAM impulse throughout stance. 20 healthy adults (7 Male, 13 Female; age: 20.6'0.7; BMI: 23.4'4.3) were recruited from the university community. To prepare for data collection, subjects were fitted with a reflective marker set to the right lower extremity, pelvis and trunk. Natural walking trials were conducted at a self-selected speed, using sacral marker velocity along the line of progression. This speed was maintained throughout the experimental trials. Subjects were asked to perform the modifications to a subjectively determined "minimal" extent, aided by visual feedback from a mirror. Data were captured using an 8-camera VICON (Oxford Metrics, Oxford, UK) Nexus motion analysis system (100 Hz), and Bertec (Columbus, OH, USA) force platform (1500 Hz). No significant changes were made to first peak KAM. All three experimental patterns significantly decreased second peak KAM. TL led to an 11% decrease ( $p = .003$ ). FPA led to a 25% decrease ( $p < .001$ ) and CP led to a 30% decrease ( $p < .001$ ). FPA and CP also significantly reduced the KAM impulse. FPA led to an 11% decrease ( $p = .004$ ) while CP led to an 18% decrease ( $p = .003$ ). Combining the modification patterns led to significant reductions in loading throughout stance phase. Future intervention research should consider the utility of this combination.

## **Analyzing and Comparing State Legislation and High School Association Regulations Regarding the Management of Concussions**

**STUDENTS** Michael A Xavier

**ADVISORS** Corinne M Daprano, Peter J Titlebaum

**LOCATION, TIME** Marianist Hall Learning Space 218, 1:00 PM-1:20 PM

Health and Sport Science, Oral Presentation - Honors Thesis

Concussions are a problem in every level of sports. Head injuries have been common in contact sports specifically, but much has been unknown about the nature of such trauma until recently. In the 2009-2010 academic year, concussions accounted for 15 percent of all injuries suffered in high school sports (Meehan 2011). Although injuries are unavoidable, creating a consistent system of concussion management and recovery protocol can minimize the damage to the brain and reduce long-term effects. The purpose of this study was to understand the comprehensive concussion regulations established by each state's legislature and high school athletic association. The relationship between concussion legislation and high school regulations was examined and suggestions were made to further promote the safest possible behavior for all participants when an athlete suffers a suspected concussion within the unique environment of high school athletics. The study used a qualitative method of document analysis of statutes from all 50 states and the District of Columbia and high school association regulations. The results of the analysis revealed that the states with the most comprehensive laws included coverage of three distinct phases of the management of the concussion issue. 1) They required education initiatives for athletes and their parents, 2) a concrete and descriptive procedure to be followed if an athlete is suspected to have sustained a concussion, and 3) a specific process the recovery and return to play, in which clearance from a medical professional is required. The best practices employed by each governing entity could be used as a viable model for governing bodies that are looking to improve concussion safety.

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

### **Food and Beverage Trends in Premium Seating**

**STUDENTS** Danielle Denise Kloke

**ADVISORS** Peter J Titlebaum

**LOCATION, TIME** ArtStreet Studio C, 1:40 PM-2:00 PM

Health and Sport Science, Oral Presentation - Independent Research

The purpose of this exploratory study in food and beverage trends in premium seating is to share the best practices involved in the operation of the dining experience in professional sport venues in the MLB, MLS, NBA, NHL and NFL. The increasing trend to include more premium seating in professional sports facilities has led to the need for providing more luxury experiences. Premium seating can account for up to 25% of local revenue for sport organizations (Connelly, 2011). Organizations can benefit from understanding how to provide the quality experiences needed to retain customers. Conclusions will be based on data collected from sport organizations and third party vendors as well as a literature review. By understanding best practices that deliver premium experiences for the most demanding of customers, sport organizations are giving up touch points with the customers by outsourcing to third party vendors. Outside vendors end up knowing more about the customers than the sport organizations do because of the consistent contact. This is an opportunity for sport professionals to reconnect with what happens on the food and beverage side of the industry that could have a positive impact on how business might be done in the future.

### **Train, Test, Send out the Best: Teaching styles and student achievement among military training**

**STUDENTS** Jessica A Siehl

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

The purpose of this quantitative study was to examine if there was a relationship among teaching style and student academic achievement. The research focused on a statistical analysis drawn from the results of student test taking. The analysis showed areas where there were challenges within the curriculum. The study used exam results from two classes within the Bioenvironmental Engineering military career field. Approximately 66 students' scores were analyzed and compared with the teaching style that was used while learning the information. The quantitative report may assist in understanding the weaker areas within the curriculum and, in turn, allow possible revisions. This study may be of help to the military career field and the training standards by explaining how teaching style is an important factor in the way a student performs.

### **The Graying and the Disgruntled: A Needs Assessment of Associate Professors**

**STUDENTS** Grace Lisa Pregent

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Recent national surveys of associate professors (Modern Language Association, 2009; Jaschik, 2012) present a bleak picture: associate professors receive little support from institutions. Without this support, they frequently lose focus, motivation, and experience professorial burnout or melancholia (Baldwin, 1990; Schwab, 1983; Karpiak, 1996). The first part of this study reframed the definition of faculty development, reviewed the related literature, and investigated three themes: the portrait of the associate professor, the results of national surveys, and recent institutional programming efforts for these professors. Through an online qualitative survey, the second part focused on the collection and analysis of data regarding the needs of associate professors at the University of Dayton. Ultimately, this study sought to assess the climate for associate professors and to propose strategic initiatives for institutional administration to support these professors, encourage their self-authorship, and engage them as vital faculty.

### **Student Perceptions of Service Club Success**

**STUDENTS** Charles Christopher Jones

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research



## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

This study examined three successful service and social action clubs (SASA) at a private Midwestern university in Ohio to determine what impacts their success. The subjective experience of SASA group leaders in regards to group success was at the core of inquiry for this particular study. Qualitative interviews were conducted with an appreciative inquiry and grounded theory perspective to pull out what students perceive to be the factors of success and where more support might encourage further success. SASA club membership may participate in many forms of civic engagement including service learning courses, semesters of service, and national/international projects or immersion trips all of which vary in length, depth, breath, and pedagogy. Each unique experience brings nuisances in the leading of their particular organization. The identities they hold, the power dynamics they experience, and their ability to communicate cross-culturally all played a role in the success of the service, in turn the success of the organization. The results of this study shed light on how all of these constructs intersect and at what points student affairs professionals, mentors, and advisors can assist in SASA club success from various lenses and hats those professionals might be operating with. The research benefits both students and administrators in service and social action offices and programs as it highlighted specific areas of success and how each works together, now and in the future, to insure all SASA clubs have the same opportunities for high level success.

### **Partnering for Success: The Effects of Formal Mentoring on Graduation and Transfer Rates Among African American Students in an Urban Community College**

**STUDENTS** Ann Belle Swartz

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Community colleges have become the gateway into college for many students due to their open access and reduced tuition rates. It has been estimated by Provasnik and Planty (2008) that in 2006, 35% of all post-secondary students were enrolled at community colleges and furthermore, community colleges serve a higher percentage of minority students and women. Graduation rates at community colleges are notoriously low at a time in Ohio's history when only 36% of adults have an associate degree or higher. Students who are underrepresented in post-secondary education are at greater risk of leaving school before earning a degree or certificate. In an effort to address the needs of African American students attending Sincir Community College (SCC), the Urban African American Mentor Program (UAAMP) was started in 2009 with a core group of 32 students. The intent of this research was to engage in causal comparative research in comparing graduation and transfer rates among the UAAMP group with graduation and transfer rates among a randomly chosen group of SCC students with similar characteristics. Variables of gender and age were also examined to see if there were statistically significant differences among students. Through data analysis, an effect between participating in the formal mentoring group and graduation/transfer rates was established. An evaluation of the effectiveness of this formal mentoring program helps provide accountability for SCC and continue UAAMP's funding in the future.

### **Bridging the Gap: Identity Crises and Self-Authorship of Veterans in Higher Education**

**STUDENTS** Todd K Schilling

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Public and private institutions have seen one of the greatest influxes of veterans using their veteran benefits since World War II (DiRamio & Jarvis, 2011). Veterans enter higher education with a diverse, individualistic background and experience, and encounter a number of issues that traditional students do not experience. The purpose of this study was to explore the various ways that veterans' transition into higher education, as well as their ability to make meaning of their military experience. The research questions guiding this study were: (a) what are the identity crises and transitions that veterans experience when enrolling in college; (b) how do veterans make meaning of their military experience and use it in their new role as a student? The participants in this study consisted of veterans of the United States Military currently attending college. In one hour semi-structured interviews, participants shared their military background as well as their experiences in higher education. Participants also reflected on their military experiences and how they led them to their current role as students. Findings suggested that veterans experience college differently than the traditional student and feel that, due to their military experience, they have a different understanding and appreciation for higher education. Higher education professionals working with veterans may benefit from the study results because it provides a first-hand insight into personal experiences of veterans. They will be able to understand the difficulty of their transition and explore new practices to better serve this unique category of students.

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

### **The Jury's Still Out: Cognitive Development of First-Year Law Students**

**STUDENTS** Robert O'Hara

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Since the work of Erikson, researchers have striven to compile data and literature on the stages and patterns of college students' abilities to think, behave, relate, and learn (Chickering & Reisser, 1993). This study posed the question, if law students are stunted or hindered in their development, can they truly be good at what they do? The purpose of this study was to provide insights and data to the cognitive development and meaning making ability of first year law students. Designed from Baxter Magolda's (1992, 1999, and 2001) longitudinal research on college student epistemological growth, the research looked at the effect law school Socratic pedagogy had on first year law students (1Ls) ability to construct meaning from the material studied in the classroom. Law by its very nature is contextual, however, Socratic pedagogy can force students into what Baxter Magolda (1992) calls, absolute knowing, the stage of knowing where students accept the facts from the professor as the absolute truth. The results will provide law school faculty with evidence on how pedagogy affects students. Furthermore, it will provide the literature of student development theory with a more in-depth view of how students develop, at least in terms of cognitive growth. Information collected throughout the study will also help law schools determine if a single strict pedagogy is appropriate for lawyers in this century. Having a better understanding of how students think and how they come to understand knowledge is valuable information that may inform educational planning.

### **The Impact of Advisors on Student Organizations**

**STUDENTS** Molly Rose Robinson

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

The purpose of this study was to examine the impact of student organization advisors on organizational success, based on the expectations set by the Council for the Advancement of Standards in Higher Education (2012). This study looked for differences in the perception of an advisor's involvement from the perspective of advisors and student organization presidents. The study also looked to see if there was a correlation between advisor involvement and student organization president's perception of organizational success. Participants of this study were asked to rate, using a likert scale, the involvement of the advisor and how successful the student organization performed specific tasks. Due to the dearth of research on this particular topic, the study findings open doors for further research with larger sample sizes for more generalizable results. Results of this study may interest student organization leaders, advisors, and higher education professionals looking to increase organizational success.

### **Decisions, Decisions, Decisions: How Undecided, Second Year Students in the College of Arts and Sciences Engage in the Decision Making Process of Choosing a Major**

**STUDENTS** Angela Lucas

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Choosing an academic major is one of the first significant decisions college students make. The purpose of this study was to determine how students in the second year of their undergraduate education in the College of Arts and Sciences make a decision about a college major. This study utilized individual interviews with students enrolled at the University of Dayton to explore resources used, information gathered and influences consulted to help determine the decision-making process of these students. Results indicated that family, especially parents, were frequently consulted and had a considerable influence on the choice of major. Students also relied heavily on career considerations as well as self-reflection to determine their own interests and abilities. Most participants expressed that they felt an enormous amount of pressure, both internal and external, to make a decision, and felt a sense of relief once the decision was made. Implications of this study include the necessity for professionals working with undecided students, especially academic and career advisors, to allow those students to discover their own interests and abilities and how they connect with career options. These results can benefit the field of academic and career advising because those professionals can encourage students to think about important decisions they made in the past, to realize they are capable of making good decisions, and to use some of the same methods to choose a major.

## **Veterans Voices: Veteran Success in Higher Education**

**STUDENTS** Brittany Arthur

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Veteran students' experiences within higher education are different compared to their nonveteran peers. Veterans enter institutions with experiences that are unique to their military background. The purpose of this study is to understand what veterans attribute to their success, or what they believe would help them in being successful. Findings provide insight into the experiences of veteran students at a Midwest religiously affiliated campus. The research question examined is what resources assist veterans to be successful in higher education. In regards to veteran's experiences, data analysis identified their interpretations of their experiences in college, their needs within higher education, and their suggestions for institutional change. The results of this research may help institutional administrators, specifically veteran affairs offices, in planning programs and services to help their veteran students be more successful.

## **Learning Outside of the Walls: Extra Curricular Activities and Student learning**

**STUDENTS** Mohrah M Alshawiyah

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Examining the various benefits of integrating curricular and co-curricular experiences for the students on college campuses, this study posed the questions: What was the impact of student engagement in co-curricular activities on cumulative grade point average? What was the impact of student engagement in co-curricular activities on their quality of relations with others and community? Dependent variables included: academic performance, sense of community, and quality of the students' relation with others. Participation in the co-curricular activities was the independent variable. A questionnaire adapted from the campus life involvement survey was used to determine the various impacts of co-curricular activities on college students. The target population for this study was undergraduate students at the University of Dayton in the School of Education. The study targeted 200 participants whose ages were no less than 18 years old. Descriptive statistics were used to report frequencies, distributions, and tendencies. Inferential statistics were used to report the relationship between students' engagement and their level of academic achievement. Findings of this research study provided valuable information that will increase understanding of co-curricular impacts on student achievement, their quality of relations with others and their senses of community. The study provided insights about the undergraduate students' impacts from participation co-curricular activities on college campuses. This study provided significant information for the educators in higher education about the impacts of participating in these activities. Understanding how such activities support students through their college lives, professionals may be urged to encourage students to participate as a way to enhance their academic achievement, their quality of relationships with others, and their community.

## **Leadership Identity Development of LGBT-Identifying Students**

**STUDENTS** Jennifer M Rentz

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Leadership identity has to do with who students are as leaders, their philosophy and perceptions of leadership, and their confidence in their abilities as leaders (Komives, Lucas, & McMahon, 2007; Komives, Owen, Longersbeam, Mainella, & Osteen, 2005). There is a scarcity in research literature regarding the intersection of LGBT and leadership identities. This study looked at the ways in which LGBT students develop their identities as leaders by engaging in leadership opportunities. Specifically, the question of what affects LGBT students' leadership identity development was addressed. Themes from past research have correlated LGBT students' leadership identity development with the influence of strong peer and adult mentors, opportunities for self-reflection, and experiences being part of a minority group. Individual interviews gave students who identify as LGBT the opportunity to share their leadership experiences and perspectives on what it means to be a leader. Their insights will help student affairs professionals provide resources, skills training, and guidance for this group of students to engage in leadership opportunities among their peers and to develop a positive view of leadership on campus.

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

### **Warm-Ups to Business Suits: Identity development of female student-athletes at the University of Dayton**

**STUDENTS** Ann T Burkhardt

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

This study strived to determine the impact of being an intercollegiate female student-athlete had on females' ability to develop an identity and internal voice. In order to determine how females integrated their athletic experiences with their sense of self, intercollegiate female student-athletes were asked a series of questions about how their college experiences in general as well as how their academic experiences had affected them. The proposition was that female student-athletes have a challenging time moving to a place where they can listen to their internal voices because the college athletic system is designed in a way where this group is consistently responding to a variety of external authoritative voices during their college experiences such as coaches, advisors, and trainers. Furthermore, previous research suggested that student-athletes who had a stronger manifestation of their student-athlete identity had a more challenging time determining a future path if it is not connected to athletics. Results suggested that the majority of female student athletes experienced a substantive influence on their identity from external authorities and the regimented lifestyle. The choices each student makes in how to handle this pressure determine how the athlete facilitates growth or continues to listen to authority rather than an internal sense of self. Many professionals in the field of higher education would be interested in learning the results of this study including, but not limited to: athletic academic advisors, learning specialists, coaches, career advisors and others. This information may assist higher education professionals to recognize the need to emphasize greater self-reliance in student decision making processes in terms of developing personal identity.

### **Make It or Break It, You've Only Got Six Weeks: The Effectiveness of a College Readiness Program at For-Profit Colleges**

**STUDENTS** Ericka Bruce

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Course Project, 13 SP EDC 569 D1

Colleges and universities attempt to fill the college readiness gap by offering developmental or remedial courses to enrolled underprepared students. One such remedial program, the Six Weeks to Success (SWTS) program at Delta Career Education Corporation, is designed to prepare low-scoring college students for the rigors of college level courses. Student data from five Delta Career Education colleges were obtained for Associate Degree students who enrolled between July 2011 and June 2012. An evaluation of the data from those who completed the program and those who did not was completed to determine if there was a statistically significant difference in student retention and Satisfactory Academic Progress (a combination of student Cumulative GPA and completion rate) between the two groups of students. This was used to determine how successful SWTS students are when compared to their counterparts who are not required to take the remediation program at all. First, student data were tracked to see how many quarters students remained enrolled and if they were meeting Satisfactory Academic Progress during their tenure. Second, data were analyzed to see if any trends were found in student major, demographic information, or location of the campus. Though results varied by campus, the Six Weeks to Success did have a positive effect on student retention and Satisfactory Academic Progress in most cases. Higher Education professionals designing remedial education programs for at-risk students may benefit from the results of this study.

### **Not a Family Tradition: First-generation College Student Success**

**STUDENTS** Alicia Adams

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

According to previous research done, first-generation college students (FGS) are twice as likely to leave four-year institutions as non-FGS's. This population is under-prepared for the struggles they will face throughout the development in a college setting. This study provides insight into some of the risk factors plaguing FGS as well as how they affect their success, gives a voice to an otherwise marginalized population, and supplies beneficial information to higher education professionals. Through focus groups, FGS were able to share their stories and struggles with other

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

students on campus to help the researcher better understand the hurdles that they face throughout their college experience. Through verifying themes, major risk factors were identified and recommendations for ways to support this population were made to higher education professionals.

### **Students as Employees & Participants: The Developmental Effects of Intramural Sports**

**STUDENTS** Charles M. Clark

**ADVISORS** Abd El Nasser A Abd El Razek

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Nonacademic aspects of college such as intramural sports have the potential to positively influence students' experiences and lives (Henchy, 2011). Whether they are employed as officials or simply participating in weekly programming, intramural sports play a pivotal role in the personal development of many students. The purpose of this study was to provide insight into the overall personal development of college students who are employed within an intramural sports department and also participate in one or more intramural sports. Previous research has indicated that intramural sports have a positive influence on students' interpersonal development. However, research regarding cognitive and intrapersonal development in that area is lacking. This qualitative study focused on eight undergraduate students at a private, midsized, religious-affiliated university who currently work as intramural sports student employees for the Department of Campus Recreation. Students, ranging from first year students to seniors, were interviewed and responded to a series of questions regarding how intramural sports have impacted how they make meaning, develop relationships with others, and view themselves. The results provide further implications towards improving the development and experience of student employees and participants and empower professionals with information to further understand their students.

### **Understanding Chinese students in a Global Context**

**STUDENTS** Ya You

**ADVISORS** Abd El Nasser A Abd El Razek, Molly A Schaller

**LOCATION, TIME** LTC Forum, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Graduate Research

Nowadays, more and more Chinese students choose to study in American higher education institutions. According to "Open Doors," the number of Chinese students enrolled at American colleges jumped 23% between 2010 and 2011, to 194,029, which is 25% of the total number of international students enrolled at American colleges. Along with that increase various challenges arise. The need to address global-centered settings becomes more and more urgent in American higher education. American universities set up curriculum and co-curriculum based on the assumption that every student has some certain knowledge or skills, which are usually lacking in the case of international students. Future research need to be done on how to help institutions become global-centered instead of American-centered. Few research studies addressed this question based on the cultural dimension of Chinese students as a group. This study followed that line to explore what Chinese students think their greatest struggles are in American higher education; why Chinese students act differently than other college students; and what constitutes success for a Chinese student? Utilizing a qualitative approach, this research focused on Chinese students enrolled in the University of Dayton to understand Chinese students based on their own expectation, personal consideration, academic consideration and cultural consideration. This poster provides a better understanding of Chinese students by connecting with their cultural background and recognizing the major challenges that Chinese students face. Presenting goals and challenges to local and foreign students, the poster may assist administrators who currently work with Chinese students and provide insights to faculty members to create a global centered curriculum.

### **The Characteristics of Marianist Education: Finding Sustenance for Faculty Community**

**STUDENTS** Savio D Franco, Sheryl McAndrew

**ADVISORS** Michele M Welkener

**LOCATION, TIME** LTC Team Space, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Course Project, 13 SP EDU 947 01

As a Marianist institution, the University of Dayton is called to sustain the characteristics of Marianist education that originate from the spirituality of its founder, Blessed William Joseph Chaminade, and the legacy handed down to us through 200 years of Marianist tradition and venture. Regardless of varied faith backgrounds, faculty play a central role in sustaining these characteristics. Furthermore, they are also beneficiaries of the nourishment and spiritual inspiration that these Marianist characteristics offer. Notably, the research across various institutional types indicates that the academy is changing, and faculty are facing numerous challenges because of it. Perhaps among the most significant factors

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

reported is a decline in the sense of community within the faculty body itself. As described in the literature about faculty life, symptoms of this decline may include difficulty communicating about work issues, insufficient mentoring and guidance, weakening collegiality, and a sense of isolation, fragmentation, and loneliness. The University of Dayton, though, offers a uniquely rich source of community and shared values in the five characteristics of Marianist education. A foundational construct in our educational mission, these characteristics are: '1) educate for formation in faith, 2) provide an integral, quality education, 3) educate in family spirit, 4) educate for service, justice, and peace, and 5) educate for adaptation and change' (Society of Mary, 1996, p. 8). To support faculty, we will share a resource document that encapsulates the essence of the Marianist educational characteristics and provides a guide to the many Marianist resources the University of Dayton provides. In this work, faculty may find a helpful resource for sustaining a supportive faculty community, one that inspires and encourages faculty as they face the challenges of the modern professoriate. Reference: Society of Mary. (1996). 'Characteristics of Marianist Education.' Dayton, OH: Marianist Press.

### **Faculty Student Services Training: The Fourth Pillar of Faculty Life**

**STUDENTS** Frances M Angerer, Curtis R Nash

**ADVISORS** Michele M Welkener

**LOCATION, TIME** LTC Team Space, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - COURSE PROJECT, 13 SP EDU 947 01

There are three pillars of faculty life: research, teaching, and service. Faculty members are thus assessed in these three areas. If a faculty member is weak in one or more of these aspects, there are often seminars and training sessions to build skills. However, a fourth, pervasive pillar of faculty life often goes unmeasured and undeveloped. Students often come to faculty as gatekeepers of student services and resources. Faculty are trained as academic resources but not as student affairs professionals. Specifically, faculty of the Kettering College Physician Assistant (PA) Program have not been trained to have adequate knowledge of the services and resources offered to PA students. Kettering College is a Seventh Day Adventist higher education institution, which has offered a variety of allied health degrees since 1967. The PA program runs 27 months and offers a Master's degree. Each year, 40-45 students are accepted into the program. The program features intensive course work and out-of-class clinical work. Kettering College offers a wide variety of resources and services to students including: counseling, academic support, residential services, recreational opportunities, health and wellness programs, disability assistance, and student conduct. While student resources and services are plentiful, PA faculty are often at a loss to help students navigate the assistance that they need. In order to address this situation the presenters have created a training session and student services guidebook. Every summer, Kettering College PA faculty attend a week long (re)orientation. At this time, faculty will be introduced to the services offered to students and will receive training on when and how to refer students to the appropriate resource. Additionally, a guidebook will be given to faculty to use as a resource. The guidebook will provide information and protocols to aid faculty members as they liaison between students and student services.

### **Preparing Medical Faculty to Teach End-of-Life Care**

**STUDENTS** Nancy P Silverman

**ADVISORS** Michele M Welkener

**LOCATION, TIME** LTC Team Space, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Course Project, 13 SP EDU 947 01

This presentation will demonstrate the need and suggest activities for the professional development (PD) of medical school faculty who can embrace and role model end-of-life (EOL) care as integral to medicine. The concept of EOL care considers dying a normal process and aims to minimize the physical, psychosocial, and spiritual suffering of patient and family. It requires an empathetic and openly communicative physician as much as it does a knowledgeable one to be receptive to patient needs. Having focused upon the medical student, renewed efforts to educate the medical community should be directed toward the faculty charged with student learning. Although required for accreditation, curricular EOL learning is minimal within a majority of medical schools, minimizing student exposure to EOL learning and to the terminally ill patient. Faculty disinterest creates a hidden curriculum of negativity that impacts student attitudes. Creating faculty awareness of the problem and connecting the need for improvement becomes the impetus for faculty learning. Faculty PD will begin with a review of prevailing research on the gaps in EOL care and exit surveys of their schools' graduating students that reflect the faculty's impact on learning. Reflection on personal attitudes toward death and dying helps to reveal barriers that exist. Storytelling becomes a powerful way to illustrate issues and to objectify them for problem resolution. Vignettes, stories of personal experiences, death rounds, and small group discussion are a few of the modalities used to engage physicians in

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

personal development. Opportunities that help physician faculty teach and role model excellent EOL care to future generations of physicians help to ensure the terminally ill experience a good death.

### **Understanding Veteran Needs for Academic Success**

**STUDENTS** Laura Cotten, Jason C Eckert

**ADVISORS** Michele M Welkener

**LOCATION, TIME** LTC Team Space, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Course Project, 13 SP EDU 947 01

With the Post 9-11 GI Bill increasing veteran benefits for higher education, institutions have seen an influx of veteran students to campuses nationwide. Often these students have little understanding of how the college admission process operates or resources available on campus once they are admitted. Veterans returning from combat experiences may have symptoms of Post-Traumatic Stress Disorder and other mental health issues. As older students, they may also require services such as child care or flexible class schedules. Understanding and addressing students with these unique needs is essential to their academic success. Engaging students in the learning process requires skill from dedicated faculty members. Because of their position as educators on campus, faculty members are a direct link to our veteran students. They know whether or not a student veteran is performing successfully in the classroom. To help these students achieve academic success, it is important for faculty to understand underlying circumstances that may affect academic performance. Faculty who understand the needs of veteran students and provide access to resources outside the classroom will enable students to perform to the best of their ability. This presentation will provide resources for faculty members wishing to better understand our veteran student population. Contact information for different services across the University of Dayton's campus and a handout with suggestions on how to support this unique student population will be provided. By providing this information to our faculty members, we hope to enhance the experience of student veterans at the University of Dayton and improve their overall academic success.

### **"Building and Supporting Faculty & Student-Athlete Relationships"**

**STUDENTS** Jenifer L Gerard

**ADVISORS** Michele M Welkener

**LOCATION, TIME** LTC Team Space, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Course Project, 13 SP EDU 847 01

Previous research has demonstrated the benefits to part-time faculty when strong partnerships are fostered within the campus community. Additionally, past studies have highlighted the effects of positive relationships between faculty and student-athletes. This presentation provides new faculty (particularly adjunct and part-time) with a better understanding of the diversity within the student-athlete population at the University of Dayton, as well as the role that The Office of Academic Services for Student-Athletes (OASSA) takes in assisting students during their transition into intercollegiate athletics and the college experience, while ensuring that all student-athletes work toward successful completion of a baccalaureate degree, meeting requirements set by NCAA and other governing bodies. Through a review of relevant literature, the presenter identifies ways to build productive relationships between adjunct and part-time faculty and the community of approximately 400 student-athletes who represent the University of Dayton in 17 Division I sports while pursuing studies across a wide variety of majors. This presentation will also propose an agenda for a future open house hosted by OASSA which will allow faculty, OASSA staff, and student-athletes to meet in order to build and strengthen partnerships in learning.

### **Adjuncts: Part Time, Full Awareness**

**STUDENTS** Carrie Lynn Rogan Floom

**ADVISORS** Michele M Welkener

**LOCATION, TIME** LTC Team Space, 4:30 PM-6:30 PM

Counselor Education and Human Services, Poster - Course Project, 13 SP EDU 947 01

Adjunct faculty comprise the majority of faculty members at community colleges, yet there are many deficits in the research concerning them (Townsend & Twombly, 2007). It is difficult to get an accurate portrayal of who these instructors are not only for the benefit of researchers, administrators, and students but also for the adjuncts themselves. There are many professional and personal pathways that adjuncts can choose, thus it can be difficult for them to relate to one another given the diversity among the group. While many community colleges offer their adjuncts supports, less often are they offered an integrated resource that helps to situate their position within both the institution and the larger conversation of higher education. A new resource is in progress for one of Sinclair Community College's learning centers. Currently, Sinclair has many college

## **SCHOOL OF EDUCATION & ALLIED PROFESSIONS**

supports: a handbook, orientation, professional development, a support person, and a community group web page for their adjuncts. The new resource will synthesize the available college resources and also provide opportunities for becoming involved and connected to the growing field of adjunct faculty. The resource can be given to new (or existing) adjuncts as an introduction to the college's resources and will present possibilities for sharing knowledge, discussion, and support. Townsend, B. & Twombly, S. (2007). *Community college faculty: Overlooked and undervalued*. ASHE Higher Education Report, 32(6). San Francisco, CA: Wiley.



**Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters**

**STUDENTS** Nicole S Alizadeh, Kevin C. Arens, Adam W. Athmer, Benjamin E Barland, Kathleen V. Burke, Robert J Clancy, Caitlin Clifford, Thomas R Currie, Madalyn C Esch, Daniel W Faerber, Mark J. Gilloon, Vignesh Kumar Gnanasekar, Michael K Goettemoeller, Carlyn R Ha

**ADVISORS** Donald V Chase

**LOCATION, TIME** Kennedy Union Boll Theatre, 8:30 AM-12:30 PM

Civil and Environmental Engineering and Engineering Mechanics, Oral Presentation - Capstone Project  
This project represents the work of the graduating class from the Department of Civil and Environmental Engineering and Engineering Mechanics of 2013. The class will be presenting conceptual and design work pertaining to land recently purchased by Goodwill Easter Seals Miami Valley. The property is located in downtown Dayton, bounded to the north by Buckeye Street, to the west by Main Street, to south by Burns Avenue, and the east by Warren Street. The work done by the 2013 Capstone Class includes site layout and design of a Regional Headquarters and Human Services Center, along with associated site development features.

**The Isolation and Purification of the Adhesive Proteins of the Blue Mussel, *Mytilus edulis* (L) using High Performance Liquid Chromatography (HPLC)**

**STUDENTS** Yuxin Liu

**ADVISORS** Douglas C Hansen

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Chemical and Materials Engineering, Poster - Course Project, 13 SP CME 595 01

The proteins involved in the formation of adhesive byssal threads of the blue mussel *Mytilus edulis* (L) contain the novel catecholic amino acid 3,4-dihydroxyphenyl-L-alanine (L-dopa). Catechols have the ability to chelate or couple to the metallic ions or metal oxides that are present at the metal-solution interface. The formation of an insoluble metallo-polymer complex by metal ion bridging at a metal surface by a naturally occurring, catechol containing protein could act as a stabilizer of the oxide layer and inhibit the process of corrosion. In an attempt to identify an environmentally friendly corrosion inhibitor, the five adhesive proteins involved in byssal thread formation by *M. edulis* are being isolated and characterized. These proteins are called *Mytilus Edulis* Foot Proteins (Mefp) 1, 2, 3, 4, and 5. The molecular weight decreases from Mefp-1 to Mefp-5, ranging from 40,000 to 100,000 Da. The purpose of this research is to isolate and purify each protein, which will then be tested and evaluated in terms of their adhesion and corrosion inhibitory effect on both high strength steel (HY80) and AA5083, a structural aluminum alloy. High performance liquid chromatography (HPLC) is used to separate the proteins from an aqueous extraction using a C8 reverse phase column with aqueous 0.1% trifluoroacetic acid and 0.1% trifluoroacetic acid acetonitrile buffer gradients, with the absorbance of the fractions being monitored at the UV wavelength of 280 nm. After collecting samples, polyacrylamide electrophoresis gels are used to visualize the fractions to determine the efficacy of the HPLC buffer gradient to separate the five proteins. Results of the HPLC gradients developed in terms of separating the five mussel proteins will be presented and discussed.

**The Isolation and Purification of a Structural Polypeptide from the Ascidian Tunicate *Styela plicata***

**STUDENTS** Yun Liu

**ADVISORS** Douglas C Hansen

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Chemical and Materials Engineering, Poster - Course Project, 13 SP MAT 595 06

Sea squirts belong to a class of organisms called Ascidians, which are sessile marine invertebrates found throughout the world attached to rocks, shells, pilings, and ships hulls. These organisms manufacture a series of compounds known as tunichromes, which have been implicated in the formation of the tough, tunic-like body covering. Ascidians are known for their bioaccumulation of metals, particularly vanadium and iron. These tunichromes contain polyphenolic polypeptides that are potent metal-complexing agents, which are found in the blood cells which circulate throughout the organism to assist in the maintenance and wound repair of the tunic. These polypeptides are contained within specialized blood cells and are released at the wound site. Iron+3 is sequestered in specialized cells containing tunichromes, which are involved in the synthesis of the tunic (a tough, leathery polymeric material). These tunichromes contain a novel amino acid: 3,4-dihydroxyphenyl-L-alanine (L-dopa) at up to

## **SCHOOL OF ENGINEERING**

39% by weight. Involvement of the sequestered iron atoms in the tunic are thought to participate in the cross-linking mechanism, resulting in the formation of the structural material that comprises the tunic-like body wall of this sessile invertebrate. It is this capability to bind and sequester Fe+3 that makes tunichromes attractive as possible corrosion inhibitors on steel surfaces. This current research effort focuses on the isolation and purification of the tunichromes from two tunicates: *Molgula manhattensis* and *Styela plicata*. Through the use of standard and modified biochemical isolation and purification techniques and strategies, the tunichromes have been isolated and purified by high performance liquid chromatography (HPLC) on a reverse phase (RP) C-8 HPLC column using a water-acetonitrile gradient. The isolation and purification of one of the tunichromes isolated from *S. plicata* will be presented and discussed.

### **Infant Cause and Effect Toy for Bombeck Family Learning Center**

**STUDENTS** Daniel J Buck, Joel Francis Visser, Paige Nicole Yaeger

**ADVISORS** Elizabeth S Hart

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Chemical and Materials Engineering, Poster - Course Project, 12 FA EGR 103 09

This project details the client meetings, design process, fabrication details, and test analysis of a toy designed to teach 3-16-month old infants the principle of cause and effect. This project was completed by a team of first year engineering students. After meeting with the client at the Bombeck Family Learning Center, the design team revised an original problem statement from "create a toy to teach cause and effect" to "create a product to teach cause and effect in a simple and clear way." Based on the problem statement, the team proposed several different designs, focusing on key aspects such as motion and noise. Drawing from these, the final design was a rectangular cuboid constructed out of clear, acrylic plastic. The design included a rubber edge guard and multiple interior channels containing freely-moving washers. The prototype design was tested according to varying criteria, including practical concerns (e.g. ease of cleaning), safety, and how well the infants understood the cause and effect demonstrated by the toy. Several factors influenced the testing of the toy and detailed results and observations were recorded.

### **The Introduction of Solar Technology in Porto de Moz, Brazil**

**STUDENTS** Faisal S. Rahman

**ADVISORS** Elizabeth S Hart

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Chemical and Materials Engineering, Poster - Course Project, 13 SP EGR 330 P1

Teams from the University of Dayton's ETHOS program began a project two years ago that involved developing solar technology in the town of Porto de Moz, Brazil. Since the beginning of the project, teams have had to work around several major challenges. One in particular is the occurrence of air bubbles that infiltrate the solar panel system during encapsulation. This is a problem that necessitates the development of a low cost vacuum. Despite these setbacks, teams and their sponsors have been able to develop the solar panels to a market-worthy stage. During the summer of 2013, ETHOS will return to Porto de Moz and continue this work. Their goal will be to explore the potential uses of the currently existing solar panel technology, develop a low cost vacuum machine, and improve on an existing solar oven design.

### **Engineering Outreach at Children's Home Autism High School**

**STUDENTS** Senia I. Smoot

**ADVISORS** Margaret F Pinnell, Jennifer G Reid

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Chemical and Materials Engineering, Poster - Independent Research

Exposing middle- and high school students to engineering curriculum can have a significant effect on their choice of future academic study. Children with special needs, however, often receive even less exposure to engineering curriculum than their typically developing peers. In response to this deficit, a UD faculty member developed an engineering outreach program for high school students that attend a school for children with Autism Spectrum Disorders (ASDs). The UD faculty member in partnership with a UD graduate student conduct monthly engineering classes to provide the students exposure to mechanical, electrical, civil, and chemical engineering topics with hands on design activities. The class is also gearing up towards a final 'capstone' project that the students can work on individually or in teams. In addition to the engineering projects, the students gain skill development in the areas of teamwork, written communications, and oral presentations.

**Assessment of Alternatives Effects and Choosing the Optimized Demand Response Capacity of Automatic Lighting System****STUDENTS** Seyed Ataollah Raziei**ADVISORS** Charles E Ebeling**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Engineering Management and Systems, Poster - Independent Research

Demand response (DR) programs seek to adjust the normal consumption patterns of electric power consumers in response to incentive payments that are offered by utility companies in order to induce lower consumption at peak hours and when the power system reliability is at risk. Given the fact that lighting systems consume about 20-35% of the total energy used in buildings, addressing this shortcoming is an important research problem. Therefore, we propose to take a systematic optimization-based approach to assess demand response capacity of automatic lighting control systems in commercial and residential buildings. Our model takes into account a variety of important systems parameters, such as the building layout, the location, power consumption, and illumination level of luminaires, information collected from daylight and occupancy sensors, illumination requirements of each spot on the layout based on the type of consumer usage, user comfort that is modeled in form of user-specific utility functions, and finally the on/off as well as dimming control capabilities of the installed luminaires. We show that, under some practical conditions, the formulated optimization problems are convex; therefore, computationally tractable. Using a variety of simulations we will investigate the optimal demand response capacities for various building layouts and different distributions of luminaires. We will also investigate the financial advantages of participating in demand response programs using automatic lighting control for both commercial and residential buildings.

**Facade Improvement Program - City of Dayton****STUDENTS** Ciarilis Colon, Alexander Ghilani, Kyle M Hulthen, Morgan T Mcnary**ADVISORS** Rebecca P Blust**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Engineering Technology, Poster - Course Project, 13 SP IET 323 01

Our team is working with the City of Dayton on the current project of improving four facades by providing design assistance in the areas of eligibility. In doing so, The University of Dayton Project Management Team is working with Ms. Amy Walbridge, a Project Administrator for the City of Dayton, to improve storefronts by implementing new signs, lighting, awnings, and landscape architecture. The project includes four unique buildings that are in need of ideas for storefront improvements. In collaboration with the local business owners, the team came to find that they don't have the resources or time to improve their storefronts. Over a three month time period the team will design two mock ups for each building including cut sheets, specifications, and cost estimates. There will be two mockups for each of the buildings because the University of Dayton Project Management Team will design one mock up that meets exact or close to what the store owners want and one mock up that includes the store owner's thoughts plus some of the teams own thoughts. Specifications will describe in detail what all goes into each mock up; lighting, awnings, signage, etc. and where things get placed along the storefront. The last thing, cost estimates, will list every new addition to the store and will tell us the budget needed overall to complete the project. During this process once the team has met with Amy and storeowners to discuss what is desired, eight perspective drawings will be implemented. With these eight drawings, an evaluation survey will be done to a selected group of random individuals. This survey will tell the team the top desired choice of appeal and prove to business owners that an improvement should be made. With these improvements, we hope that it encourages other restorations within the downtown area as well. The last step in the given time period is creating and delivering a final presentation for Ms. Walbridge. The team will present their final designs on each property, and the process that the team utilized, in order to put forth the desired needs to improve the facades.

**Ingrid Photovoltaic Solar Panel System****STUDENTS** James A Brewer, Chigozie C Ezenagu, William J Schwarze, Ying Xu**ADVISORS** Rebecca P Blust**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Engineering Technology, Poster - Course Project, 13 SP IET 323 01

This summary will outline the ideas and objectives of the project as stated in the proposal in further detail. In 2011, the Melink Corporation, located in Milford, Ohio, donated a solar Photovoltaic System(PV) to the University of Dayton(UD) for research and education purposes. Melink is a transformative clean energy industry which aims at better the global economy, security and environment. It popularizes the use of clean energy

## SCHOOL OF ENGINEERING

including the solar power. In addition, TMI Electric Company is contracted to build the foundation for the solar PV system. Other stakeholders involved in the installation are: UD Facilities, Bowser Morner, and KOESTER. The installation design must be approved by these stakeholders. The purpose of this project is to oversee installation of a solar PV system behind the RecPlex Center at the University of Dayton. Which will include, inventory of components, developing drawings, scheduling contactors, and monitoring the output of the system. The team will research information about the solar PV system, incorporate and apply the engineering management skills in order to insure the success of the PV system installation. The University of Dayton Project Management Team will fully prepare an inventory of parts needed, and provide professional engineering drawings, pictures, and information to UD facilities, and manage all stakeholders involved. Ultimately, the goal of this project is to manage the installation of the solar PV system behind the RecPlex Center at UD. When the project is completed, the system will serve as an educational device for students and faculty to learn about the advantages of renewable energy. It will also serve as an icon, proving that the University of Dayton is making an attempt to utilize renewable energy.

### Development of Greenhouse for Disabled Farmers

**STUDENTS** Colleen A Duggan, Brett Gross, Hui Jiang, Kyle J Keplinger, Emilio Tejuene Torres

**ADVISORS** Rebecca P Blust

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Engineering Technology, Poster - Course Project, 13 SP IET 323 01

Currently there are no existing greenhouses or pending plans to construct a greenhouse that meet the needs of a paraplegic individual. In order to provide our client with a structure that is not only functional as a greenhouse but also accessible for the paraplegic individuals with an interest in farming. The new accommodating greenhouse will allow paraplegics to continue their farming lifestyle while cultivating vegetation year round. The scope of this project is to provide our client with a safe and functional structure of a greenhouse that will allow the paraplegic individuals to access the vegetation and to continue farming. The team is developing an average plot size of 30ft x 120 ft. after which could be scaled and multiplied depending upon the available space of the client. Within the greenhouse there are multiple considerations that the team has discovered such as; lighting, heating and cooling, air flow, humidity control, and hygiene station for the users. The project will be completed throughout these processes: 1. Research "" research will be done to shorten the learning curve of the team members on the subject of greenhouses and paraplegics. There will be individual, group discussions, as well as site visits to accumulate all possible knowledge. 2. Conceptual Design - This is the phase where the team will combine research and apply it to create a design that is compatible with all specified requirements. There will be checks along the way to ensure the functionality of the greenhouse with regards to plat development as well as lighting, heating/ventilation, and an irrigation system to hydrate the plants. Once the basic design is formed the team will gather input from stakeholders and clients to improve upon the included features. From there the team will be able to create a hybrid design of the greenhouse structure and present the final product to the client. 3. Final Drawing - The final product from the previous phase will serve as the foundation for this phase. Technical drawings with dimensions and specifications of materials will be added to the product so as to specify what exactly will be needed, along with the associated cost, in order to implement the product for actual use. 4. Final Presentation "" The team will present the final detailed product to the client complete with a report. Upon the completion of this project, the client will have a fully detailed and professionally developed drawing of the greenhouse structure in which the team constructed. Currently the team is working to compile the basic designs incorporating the combined research of each individual member and the group as a whole. This project will be completed by the Greenhouse Engineering Design Team of the University of Dayton. Calculated costs have been included in the budget section within this document, along with a current schedule of key events in the schedule section.

### Emerson Climate Technologies Patent Improvement Project

**STUDENTS** Evan R. Chokan, Kyle T Loges, Wenhao Lu, Stephanie Marie Malloy

**ADVISORS** Rebecca P Blust

**LOCATION, TIME** RecPlex, 9:00 AM-10:30 AM

Engineering Technology, Poster - Course Project, 13 SP IET 323 01

The client, Emerson Climate Technologies, Inc. seeks to provide global solutions to improve human comfort and protect the environment. Their main focus involves products for heating and cooling on both a small and large scale. With the constant flow of new ideas for products and projects, there is also a process of organizing and protecting these ideas. The current patent filing process in which these ideas are protected is neither time nor cost efficient. This project will focus on improving the patent filing process in hopes of increasing the number of patents Emerson Climate Technologies can file in a month's time. The team will study, break down, and reassess the current patent filing process. There is a detailed

order of operations for filing a patent. The group will evaluate each step and explore possible areas of improvement. This will include reformatting the order of operations, integrating a more efficient form of communication between members of the process, and cutting down on any current practices that result in wasted time. The ultimate goal of this project is to install a system for filing patents that will enable Emerson Climate Technologies to file five patents per month as opposed to their current rate of one to three. By looking at the process step by step, the group will be able to completely understand the process and focus on its weak aspects. When our goal is reached, the client will be able to sort, propose and file patents in a timely manner without much of the current confusion and miscommunication. The improved process can be used repeatedly, as it is not specific to any one patent.

## **Modeling Complex Distillation Columns for Ternary Mixtures**

**STUDENTS** Joseph A. Terrano

**ADVISORS** Amy R Ciric

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Honors Thesis

Distillation is one of the most common processes used to separate liquid mixtures of chemical species with differing boiling points. Simple distillation columns are a single column with two product streams; complex columns may have three or more product streams and smaller side columns. It is difficult to simulate a complex column without a good initial estimate of key parameters such as the number of equilibrium stages and the reflux ratio. The goal of this thesis is to develop a software package that models the minimum reflux ratio, minimum number of stages and the column profiles in complex distillation columns with side-stream columns.

## **Development of a Sublimation-Inhibitive Coating for TAGS-85 Thermoelectric Material**

**STUDENTS** Brian L Berger

**ADVISORS** Chadwick D Barklay, Donald A Comfort

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Honors Thesis

Radioisotope Thermoelectric Generators (RTGs) ' in use by NASA since the 1960s ' convert the heat of decaying nuclear fuel to electricity. RTGs are an ideal power source for space technology due to their reliability and long lifespan. TAGS-85, a material critical to the operation of these generators, has been found to degrade over long periods of time at high temperatures. This degradation leads to a decrease in the power being produced by the RTG, diminishing its reliability as a power source. This thesis seeks to create a coating to inhibit sublimation which can be applied to TAGS-85 before it is installed in the RTG. Several types of ceramic coatings were applied to samples, which were then subjugated to elevated temperatures for extended periods of time. Several analytic techniques were employed to gauge the effectiveness of the coatings at preventing TAGS-85 degradation.

## **Low Alloy Steel Susceptibility to Stress Corrosion Cracking in Hydraulic Fracking**

### **Environment**

**STUDENTS** Ezechukwu Anyanwu

**ADVISORS** Douglas C Hansen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Graduate Research

The pipelines used for the process of hydraulic fracturing (aka fracking) process are constantly operating at very high pressure and thus are highly susceptible to Stress Corrosion Cracking (SCC). This is primarily due to the process of carrying out fracking at a shale gas site, where the hydraulic fracking fluid is pumped through these pipes at very high pressure in order to initiate fracture in the shale formation. While the fracking fluid is typically more than 99% water, other components are used as well as propping agents to hold the fractures open. Research into the occurrence of SCC reveals that SCC is engendered by a number of factors, of which two main contributors are stress in the pipe steel, and the particular type of corrosive environment that exists around the pipeline in the service setting. This current research is focused on the evaluation of the susceptibility of low alloy steel (C4340) to stress corrosion cracking in different environments as it relates to the hydraulic fracking fluid chemistry and operating conditions. These different environments are achieved by varying solution pH, component concentration and applied stress. Results of standard

## SCHOOL OF ENGINEERING

DC electrochemical measurements using C4340 sample coupons in the various solutions and applied stress conditions will be presented and discussed.

### Investigation and Testing of Corrosion Inhibiting Polyphenolic Proteins

**STUDENTS** William F Nelson

**ADVISORS** Douglas C Hansen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Graduate Research

Flash rusting is a corrosion process in which steel rapidly oxidizes upon contact with air at a high relative humidity. The ultimate goal of this research is to develop a bio-inspired corrosion inhibitor that is both water-soluble and environmentally friendly and will inhibit flash rust on high strength steel (HY80) as well as corrosion on the aluminum alloy AA 5083. Several proteins involved in the formation of the adhesive byssal threads by the blue mussel *Mytilus edulis* L have been identified for their potential as corrosion inhibitors. The most important feature of these biomolecules for corrosion prevention applications is the presence of a post-translationally modified amino acid L-3, 4 dihydroxyphenylalanine (L-dopa). L-dopa has a well characterized ability to form strong bonds with metal ions, thus stabilizing the metal surface and inhibiting corrosion. In addition, when enzymatically treated, L-dopa containing proteins and polypeptides can participate in crosslinking reactions, which have been shown to lead to a thicker and more durable protein layer when applied to surfaces. In this study, HY80 steel coupons were treated with varying amounts of MAP-1, the largest and most well-characterized of the five mussel proteins, in varying buffer and enzyme content and exposed in an accelerated atmospheric corrosion chamber maintained at 40°C and 100% relative humidity. For comparison, identical HY80 samples were treated with a commercially available flash rust corrosion inhibitor under identical exposure conditions. The results show that enzymatically crosslinked MAP-1 can last for as long as 272 hours, 200 hours longer than the average control sample. Electrochemical measurements including cyclic polarization scans and electrochemical impedance spectroscopy (EIS) data were collected for HY80 samples treated with MAP-1 immersed in seawater. The results of these measurements and exposure tests will be presented and discussed.

### Rates of Corrosion of Various Metals in a Modified B117 Chamber and Their Correlation to Field Data

**STUDENTS** Philip T Wille

**ADVISORS** Douglas C Hansen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Independent Research

The standard equipment used for accelerated corrosion exposure testing is the ASTM B117 chamber. Exposure conditions consist of a 3.5% NaCl salt solution that is sprayed into the chamber with one or more atomizing nozzles. The exposure zone of the chamber is maintained at a temperature of 35'2 °C (95'3°F). Exposure time depends on specific experiments and/or material being tested. The problem with this method, however, is that it does not always accurately simulate typical conditions out in the field. Outdoor conditions contain various amounts of UV and ozone which are not present in a standard B117 exposure chamber test. The objective of this experiment is to compare how differing amounts of UV and ozone in a B117 chamber will affect the rate of corrosion of various metals. Ultimately, the goal is to achieve a reliable correlation between the rate of corrosion in the field and the modified B117 chamber. The performance of five different metals (6061Al, 2024Al, 7075Al, Cu, and 1010 steel) was evaluated. Two different levels of UV and ozone were used for each of four experiments: high UV/high ozone, low UV/low ozone, high UV/low ozone, and low UV/ high ozone. High and low UV had a radiative flux of 0.96W/m<sup>2</sup> and 0.1 W/m<sup>2</sup>, respectively; ozone was adjusted from 800ppb to 100ppb for high and low, respectively. Mass loss data was taken for each metal at every 100 hour mark, up to 1000 hours. At high UV and high ozone levels, corrosion rate increased for all exposed metals. At low UV and high ozone levels the corrosion rate decreased for each metal except for steel, where the corrosion rate remained relatively equal. Since steel does not form a passive oxide layer, this suggests that UV may be disrupting the passive oxide layers of the copper and aluminum alloys.

### Adsorption Behavior of Polyphenolic Proteins onto High Strength Steel (HY80) and 5083 Aluminum Alloys

**STUDENTS** Lu Han

**ADVISORS** Douglas C Hansen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Graduate Research

Biopolymers containing chemical groups involved in the formation of adhesive bonds to various substrates (man-made or natural) can be easily found from organisms in nature. The biopolymers utilized by organisms in a process known as quinone tanning contain a unique catecholic amino acid, namely 3,4-dihydroxyphenyl-L-alanine (L-dopa). It has the ability to chelate or couple to the metallic ions or metal oxides that are present at the metal-solution interface. The formation of an insoluble metallo-polymer complex by metal ion bridging at the surface that acts as a stabilizer of the oxide layer can inhibit the process of corrosion. This peculiar capability could be utilized as an environmentally friendly flash rust inhibitor when applied to high strength steels in a humid environment. In the present work, L-dopa containing biopolymers were isolated from the foot of the common blue mussel, *Mytilus edulis* L. There are five L-dopa containing proteins, named *Mytilus edulis* Foot Protein 1 through 5 (MeFP 1 through 5) with a wide range of molecular weights from 6-120kDa. The adsorption characteristics of these proteins onto high strength steel (HY80) and 5083 aluminum alloy were observed. The Bradford protein assay was used to detect the solution concentration of non-adsorbed protein onto either alloy. Langmuir isotherm calculations were made to determine the adsorption behavior based on the differences between the original protein concentration in solution at time zero and the protein concentration in solution at each time point. The optimal solution concentration for maximum substrate coverage onto the metal substrate was then determined. Results and data interpretation for the adsorption studies will be presented and discussed.

### **The Origin and Possible Role Of L-dopa Containing Proteins in Biomineralization Processes**

**STUDENTS** Wesley D. Tidball

**ADVISORS** Douglas C Hansen, Karolyn M Hansen

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Independent Research

Marine organisms such as *Mytilus edulis* L (the blue mussel), *Crassostrea virginica* (the eastern oyster), and *Mercenaria mercenaria* (the hard shell clam) produce structural proteins and peptides that are critical in adhesive strategies as well as the formation of new shell. The unique properties of these proteins and peptides are induced by their specific amino acid composition. One unique catecholic amino acid is of utmost importance: L-3,4-dihydroxyphenylalanine (L-dopa), which has been implicated in the enzymatically catalyzed sclerotization (or cross-linking) of these proteins that can form moisture-resistant adhesive bonds to a variety of substrates, or the formation of an insoluble organic matrix that plays a vital role in biomineralization and shell formation. The exact origin and role of L-dopa found in these structural proteins is still a source of debate within the biomineralization community. Therefore, the focus of this research was to determine the origin and possible role of L-dopa containing proteins involved in the process of biomineralization and the formation of new shell in the three bivalve mollusks previously mentioned. Studies were performed to determine the origin and relative abundance of L-dopa throughout the process of shell growth and regeneration by inducing a cellular response at the shell growth margin and harvesting serum contained within the adductor muscle. Induction of localized shell growth was achieved by notching the shell; the serum was collected from the adductor muscle closest to the notch at a regular time interval, beginning at time of induction. The serum was centrifuged and hemocytes were harvested and rinsed in filtered sea water; the resulting serum supernatant, hemocytes and rinses were analyzed for amino acid composition. Freshly regenerated shell was also harvested from the shell notch and analyzed. All amino acid analysis has been done using liquid chromatography. Preliminary results indicate that L-dopa is produced within the hemocytes of these three organisms.

### **An Electrochemical Study of L-3,4-dihydroxyphenylalanine (L-dopa)**

**STUDENTS** Rachel R VanAtta

**ADVISORS** Douglas C Hansen, Robert G Keil

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Capstone Project

The purpose of this research was to perform an electrochemical study on the novel amino acid L-3,4-dihydroxyphenylalanine (L-DOPA). Understanding the electrochemistry of L-DOPA would give insight into the electrochemistry of an adhesive protein isolated from the blue mussel (*Mytilus edulis* L). Cyclic voltammetry scans were conducted on solutions containing buffer, iron, and varied amounts of L-DOPA at pH values equal to 4.5, 7.2, and 10.2. A plot of the peak potentials ( $E_p$ ) was used to determine the stoichiometric ratios of L-DOPA to Iron (Fe). The solutions at pH

## **SCHOOL OF ENGINEERING**

values equal to 4.5, 7.2, and 10.2 were also analyzed spectrophotometrically, and an absorbance plot was used to determine the stoichiometric ratios of L-DOPA to Iron. The data indicated that the  $\text{Fe}^{3+}/(\text{L-DOPA})$  complex exhibited an intricate stoichiometry, and the stoichiometric ratios calculated from the plots were similar to the values published in the literature for Iron-catechol complexes. Also, it was determined from the shape of the absorbance plot indicated a large formation constant ( $K_f$ ). The peak potentials confirmed that  $\text{Fe}^{3+}$  was strongly complexed by L-DOPA. Further research will explore the electrochemistry of the blue mussel adhesive protein, and the findings from the  $\text{Fe}^{3+}$  (L-DOPA) complex will be used as a basis when investigating the metal complexing capability of the mussel protein.

### **The Influence of High Solids Loading Concentration and Scaling-up Operation in Coal Slurry Just-Suspended Agitation by High-Efficiency Impellers**

**STUDENTS** Hong Liu

**ADVISORS** Kevin J Myers

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Graduate Research

The just-suspended condition is often regarded as the optimum criterion for liquid-solid agitation in chemical industries for processes such as crystallizing and dissolution. Literarily it is defined as the minimum speed that all particles are in motion and no particle remains on the vessel base for more than 1 to 2 seconds. Compared to uniform suspension in which the solids are dispersed throughout the liquid phase, just-suspended agitation reduces power consumption and equipment investment while exposing the entire solid surface to surrounding liquid. In this research, the characteristics of coal powders just suspended in water prior to transportation in pipelines were studied. Zwietering developed a correlation for just-suspended speed that indicated that it was affected by various parameters, such as solid and liquid properties and impeller characteristics, with each effect being presumed to be independent. However, this correlation was developed based on limited data such as low solid loading. In the current study, the solids loading exponent reflecting the effect of high solids concentration on just suspended speed is contrasted with Zwieterings' correlation. Also, effort was devoted to exploring the influence of scale-up in coal slurry just-suspended agitation. Additionally, the unsuspended solids fraction at stirrer speeds below just-suspended speed was studied. The solids loading exponents of this study were higher than those found by Zwietering, and the higher the solids loading, the higher the exponent. The scale-up exponent that describes the effect of scale on the just-suspended speed was found to depend on solids loading, with the scale-up exponent increasing with increasing solids loading. It was found that the suspended solids fraction did not fall below 98% until the stirrer speed was decreased to 70% of the just-suspended speed. Specifically, reduction of the speed by 30% reduces power requirements by 65% while keeping 98% of the solids in suspension.

### **Fundamental Mathematical Model for Direct Write Additive Manufacturing**

**STUDENTS** Robert J Strong

**ADVISORS** Scott A Gold

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Chemical and Materials Engineering, Poster - Honors Thesis

Direct write additive manufacturing processes are seeing a growing number of applications. This work specifically focuses on one of the most versatile direct write technologies, a continuous bead extrusion process. A syringe type mechanism is used to deposit a bead of a liquid ink on a surface. Two and three dimensional structures can be fabricated through the x-y motion of the print head and the z motion of the build surface. A mathematical model describing the spreading of a printed bead of ink or other liquid has been developed. The model accounted for surface tension forces acting on the bead and neglected gravitational effects. Any changes in density or viscosity of the bead during the print process were also neglected in this first generation model. The model provides a useful tool for direct write process design as well as for the development of new ink formulations.

### **Denatonium Benzoate Removal from Water Sources Using Oxidation with Chlorine**

**STUDENTS** Mariana E Aboujaoude

**ADVISORS** Kenya M Crosson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Civil and Environmental Engineering and Engineering Mechanics, Poster - Independent Research



Denatonium benzoate (DB) is the bitterest substance in existence, and 0.05 ppm of the bittering agent in water is detectable by taste. The Consumer Specialty Products Association and Humane Society Legislative Fund agreed that antifreeze and engine coolant manufacturers would start adding a bittering agent to their products, and several states require DB addition to antifreeze and engine coolant to prevent accidental ingestion. Since 30 ppm of DB in water could cause the water to be unpalatable, a concern is that improper disposal or spillage of products with DB could lead to contamination of water sources used for drinking water through seepage or runoff. Research has shown that sandy soil would not inhibit DB seepage into drinking water sources. The research objective was to determine if oxidation could lower the DB concentration enough to make water palatable. Experiments evaluated DB removal using oxidation batch tests. Organic free water, groundwater, softened groundwater, and softened-settled groundwater were spiked with 70 ppm DB, and 2 ppm chlorine was added. DB concentrations were tested with a high-performance liquid chromatography instrument. The DB percent removal was 4.8% in groundwater with a pH of 6.3. DB removal was 2.9% for softened-settled water with a pH of 7.9. Waters with higher pH levels had less DB removal using chlorine oxidation in comparison to water with pH levels closer to 7. The exception to this was for the softened water with a pH of 9.3 where 7% DB removal occurred. DB may have sorbed to precipitates formed during softening, thus resulting in slightly more removal. DB removal using chlorine in organic-free water was 8.5%. Chlorine did not remove as much DB from natural water with organic matter as it did with organic-free water. Chlorine oxidation did not lower DB levels enough to make water palatable.

### **Evaluation of Multiaxial Fatigue Models for Ti-6Al-4V**

**STUDENTS** Christopher Andrew Buck

**ADVISORS** Robert A Brockman, Dennis J Buchanan

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Civil and Environmental Engineering and Engineering Mechanics, Poster - Honors Thesis

The fatigue life of an engineering component is often an important design consideration, but the understanding of this property is somewhat limited. Engineering components often experience stresses due to cyclic multiaxial loads, which eventually cause fatigue failure. The majority of research into fatigue failure, however, has been devoted to modeling and predicting the fatigue life of components subjected to uniaxial loading. Uniaxial loading is easier to test and understand than multiaxial loading, but it is not as likely to occur in applications as multiaxial loading. Several approaches to modeling multiaxial fatigue life have been developed, including the Sines Model and the Findley Model. In order to test the validity of each model, reliable multiaxial fatigue test equipment is required to generate accurate data. Past efforts have attempted to validate multiaxial fatigue life models, but were performed without the benefit of reliable test data. Recently, the Air Force Research Laboratory obtained a MTS 809 Axial/Torsional Test System that is capable of generating accurate multiaxial fatigue data. Throughout this project, the MTS tension-torsion machine was used to generate reliable torsional and multiaxial fatigue data for Ti-6Al-4V test specimens. The data generated by the torsional fatigue tests was used in conjunction with previously generated axial fatigue data to model and predict the fatigue life of Ti-6Al-4V test specimens subjected to multiaxial loading. The MTS tension-torsion machine was the used to test Ti-6Al-4V test specimens under multiaxial loading. The fatigue life of the test specimens subjected to multiaxial loading was then compared to the fatigue life predicted by the models to evaluate how effectively each model predicted the fatigue life of Ti-6Al-4V.

### **Effect of Voids on Delamination Behavior Under Static and Fatigue Mode I and Mode II**

**STUDENTS** Nisrin R Abdelal

**ADVISORS** Steven L Donaldson

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Civil and Environmental Engineering and Engineering Mechanics, Poster - Graduate Research

Composite materials have become materials of choice for wind turbine blade manufacturing due to their high specific stiffness, strength and fatigue life. Glass fiber composites are used extensively in light-weight structural components for wind turbines, aircrafts, marine craft and high performance automobile because glass fiber is inexpensive and usually provides high strength to weight ratio and good in-plane mechanical properties. The high cycle fatigue resistance of composite materials used in wind turbine blades has been recognized as a major uncertainty in predicting the reliability of wind turbines over their design lifetime. Blades are expected to experience 108 to 109 fatigue cycles over a 20 to 30 year lifetime. Delamination or interlaminar failure is a serious failure mode observed in composite structures. Even partial delamination will lead to a loss of local stiffness, which can preclude buckling failure. Manufacturing processes defects such as voids and fiber waviness degrade the fatigue life and delamination resistance of the blade's composite. This research describes the effect of voids on static and fatigue interlaminar

## **SCHOOL OF ENGINEERING**

fracture behavior under mode I and mode II loading of wind turbine glass fiber composites. Samples with different void volume fractions in the 0.5%-6% range were successfully obtained by varying the vacuum in the hand layup vacuum bagging manufacturing process. Void content was characterized using four different methods; ultrasonic scanning, epoxy burn off, serial sectioning and X-Ray computed tomography. The effect of voids on both mode I and mode II interlaminar fracture toughness under static and fatigue loading was investigated. Finally, fractographic analysis (using optical and scanning electron microscopy) was conducted. The results showed that voids leads to slight reduction in static modes I and II interlaminar fracture toughness. In addition, voids lead to decrease in modes I and II maximum cyclic strain energy release rates and fatigue life. Fractographic features allowed relations to be drawn between fracture surfaces and mechanical properties of the composite, and to investigate the differences in the fractographic features between panels fabricated at different vacuum levels, and between static and fatigue modes I and II.

### **Internet as Dictionary For Image Compression**

**STUDENTS** Elhusain S Saad

**ADVISORS** Keigo Hirakawa

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Image compression is very important because the storage memory needs to be small and the quality needs to be high. The success of modern image compression algorithms depends on the effectiveness of the dictionaries that represent the images indirectly. Recent emphasis has been on the sparse representation, where the redundant dictionaries are used to closely approximate the image vector with a combination of a few coefficients. In this work, we explore new simple method of attaining sparse and efficient representation by using Internet as a source of dictionary for image compression. As the number of images available online are extraordinarily large, the quality of image compression improves by searching for the closest dictionary matches. A unique requirement to this work is the efficient addressing of these images by compressing the Universal Resource Locator (URL). The preliminary results show that the proposed algorithm is competitive with state-of-art image compression algorithms. The proposed work for GSSF will focus on efficient way to scale the dictionary size to attain higher quality image compression. We plan to modify self-organizing map (SOM) to best suite the image compression needs.

### **Non-linear regulation of power quality within a microgrid consisting of multiple distributed generators (solar, wind, etc.)**

**STUDENTS** Thanigasalam Chettiyar

**ADVISORS** Malcolm W Daniels

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Microgrids are important because of their ability to provide a greener solution to obtain reliable, secure and sustainable electricity from renewable sources of energy. The power quality issues observed in a microgrid are very different as compared to the traditional grid as a microgrid can be islanded i.e. disconnected from the main grid. These issues are of significant importance to researchers dealing with microgrids because the reliability of the grid and all the nodes (households) connected to it depends on it. Currently, the power quality issues - total harmonic content and transient coupling between real and reactive power - have been studied only for a single distributed generation (DG) unit connected to a grid. However, under practical conditions, the microgrid would have more than one DG (Ex: solar, wind, and other renewable or non-renewable generation sources) connected to it. The current proposal seeks to study the power quality issues for a microgrid consisting of multiple DGs. This area of research would contribute to achieving seamless transition between grid connected and islanded modes of microgrid operation. A Newton-Raphson based non-linear feed-forward algorithm used to regulate power flow will be evaluated on a microgrid model consisting of multiple DGs. The proposed microgrid model follows the CERTS architecture for modeling microgrids. The Lyapunov Direct method would be used to evaluate system stability. The expected results - near-zero total harmonic content and transient coupling - would increase the practical implementability of microgrids.

### **Independent Feeding Device**

**STUDENTS** Hariharan Ananthanarayanan

**ADVISORS** Raul E Ordonez

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

**Electrical and Computer Engineering, Poster - Independent Research**

The purpose of the Independent Feeding Device (IFD) is to increase the independence, dignity, and quality of life for the severely disabled by enabling them to autonomously feed themselves with appropriate supervision by a caretaker. The IFD transports a selected food item from the table to the mouth in an enjoyable, intuitive, and ergonomic fashion. For those physically incapacitated individual who possess the mental faculties, the IFD will provide a highly desirable solution that is affordable, attractive, and practical. In institutional settings, the IFD will substantially reduce the cost of labor associated with feeding incapacitated patients or residents while significantly increasing the quality of life for that same patient or resident.

**Multi-Scale Local Fourier Phase Based Feature Learning for Single Image Super Resolution**

**STUDENTS** Sai Babu Arigela

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Most of the image/video processing and computer vision applications depend on the high quality image frames. Given a low resolution input, the proposed method uses multi-scale local directional Fourier phase features to adaptively learn a regression kernel based on local covariance to estimate the high resolution image. This method uses image features to learn the local covariance from geometric similarity between low resolution image and its high resolution counterpart. For each patch in the neighbourhood, we estimate four directional variances in three different scales to adapt the interpolated pixels. We use a non parametric kernel regression to learn the characteristics of local directional edge features. The Gaussian steering kernel which has the capability to elongate, rotate and scale along the edge regions is used. The parameters of elongation, rotation and scale are estimated automatically from the image local region. We apply these weights to estimate the interpolated pixels to get the high resolution image. The experimental results show that the proposed algorithm performs better than other state of the art techniques especially at higher resolution scales. This can be applied to improve the performance of object classification system on wide area motion imagery.

**Intrusion Detection on Oil Pipeline Right of Way (ROW) using Monogenic Signal Representation**

**STUDENTS** Binu M Nair

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

We present an aerial image object detection algorithm to automatically detect and identify possible intrusions such as construction vehicles and equipment on the regions designated as the pipeline right-of-way (ROW) from high resolution aerial imagery. The pipeline industry has buried millions of miles of oil pipelines throughout the country and these regions are under constant threat of unauthorized construction activities. The heavy weight of these vehicles and equipment can cause a tremendous strain which may cause cracks and oil leakages and so requires the need for automatic threat detection. The proposed detection algorithm makes use of the monogenic signal representation to extract the local phase information. Computing the monogenic signal from a two dimensional object region enables us to separate out the local phase information (structural details) from the local energy (contrast) thereby achieving illumination invariance. In this paper, we use a pyramidal template based matching technique computed from the local phase information of a single high resolution training image to classify a construction vehicle with each level corresponding to a certain scale. In order to account for different orientations, a pyramidal template matching is applied for every five degree rotation of the search region at a particular scan and the corresponding detections are compared using Earth Movers distance metric to obtain the final detection. A nearest neighbor classifier is used as the matching criterion along with a threshold for minimum distance to filter out the false detections. The algorithm is successfully tested on the aerial imagery containing seven different classes of construction equipment on private data sets provided by PRCI (Pipeline Research Council International).

**Enhancement of Images Captured in Complex Lighting Environments for Visual Quality Improvement**

**STUDENTS** Sai Babu Arigela

## **SCHOOL OF ENGINEERING**

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

The effectiveness of an image enhancement technique based on a sine nonlinear transformation function to improve the visual quality of images captured with low dynamic range devices in extreme lighting conditions is presented. The enhancement technique consists of four processes: histogram adjustment, dynamic range compression, contrast enhancement and nonlinear color restoration. Histogram adjustment on each spectral band is performed to minimize the effect of illumination. Dynamic range compression is accomplished by a sine nonlinear function with an image dependent parameter to tune the intensity of each pixel in the luminance image. A nonlinear color restoration process based on the chromatic information and luminance of the original image is employed. The effectiveness of this technique is evaluated on various natural images and aerial images, and compared with other state-of-the-art techniques. A quantitative evaluation is performed by estimating the number of Harris corners and Speeded Up Robust Features (SURF) on wide area motion imagery data. The application of the proposed algorithm on face detection is also demonstrated. The evaluation results demonstrate that the proposed method holds significant benefits for surveillance and security applications and also as a preprocessing technique for object detection and tracking applications.

### **An Automatic and Locally Tunable Transformation Function for Fog and Haze Removal in Aerial Imagery**

**STUDENTS** Sai Babu Arigela

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

A new automatic image enhancement technique based on a locally tunable transformation function for visibility improvement in aerial images is presented. Aerial images usually suffer with poor visibility and contrast because of bad weather conditions like haze, fog, and turbid conditions. We propose a model based image restoration approach which uses a new nonlinear transfer function on luminance component to obtain the transmission map. The model assumes that the weather conditions include haze and fog particles. The amount of accumulation of haze/fog particles depends on the depth information of the scene. The local luminance image provides approximate depth information of haze/fog regions. Local multi scale Gaussian mean is used to estimate the approximate local depth image. A new nonlinear function which is locally adaptive based on the approximate local depth information is used to estimate the transmission map of the image. The haze free image can be restored from the haze image by estimating the transmission map and substitute in the model for each spectral band. Results from various experiments demonstrate that this technique can be used for various applications like traffic monitoring, weather observation, video surveillance, and security applications.

### **Water Body Segmentation in Aerial Imagery**

**STUDENTS** Fatema A Albaloooshi, Alex Mathew

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Image segmentation is a very mature field that is used in several applications such as medical imaging, machine vision, object detection, object recognition, traffic control systems, and many more. Several general-purpose algorithms and techniques have been developed for image segmentation and fast implementations and libraries are available. Water body segmentation in aerial imagery is a harder problem as the properties of water, such as reflectivity varies with several environmental factors. For instance, surface brightness changes with incident light according to time of the day, haze and cloud, angle of capture, and specular reflectivity dictated by Fresnel equations. In addition, the color of water can vary depending on the presence of micro-organisms and size of water body area. Over the past decade, a significant amount of research has been conducted to extract the water body information from various satellite images. The objective of this research is to segment out water bodies to narrow down the search regions for oil leak detection. Color, texture and gradient features are used to extract water body region. The histogram of hue, saturation, and value, (H, S and V) are concatenated together to form a 'color feature vector'. These features are used to train a Support Vector Machine (SVM) classifier. Each pixel is then classified as water or non-water based on the histogram of pixels in a 3 x 3 neighborhood around it. The location of camera, time of capture, presence or absence of sunlight, and depth of water body are challenges that have been analyzed and

discussed. We have also given a comparison with other well known segmentation methods such as K means clustering, mean shift clustering, and graph cut. Important factors to be taken into consideration for future research work are also identified and discussed.

### **Robust Artificial Intelligence-based Defense Electro Robot (RAIDER)**

**STUDENTS** Yakov Diskin, Binu M Nair, Benjamin E Natarian

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Independent Research

We present a fully autonomous system capable of performing security check routines. The surveillance machine, the Clearpath Husky robotic platform, is equipped with five IP cameras with different orientations for the surveillance tasks of face recognition, human activity recognition, autonomous navigation and 3D reconstruction of its environment. Combining the computer vision algorithms onto a robotic machine has given birth to the Robust Artificial Intelligence-based Defense Electro-Robot (RAIDER). The performed experiment consists of conducting a patrolling routine on a single floor of a building several times a day. As the RAIDER travels down the corridors off-line algorithms use two of the RAIDER's side mounted cameras to perform a 3D scene reconstruction from monocular vision technique that updates a 3D model to the most current state of the indoor environment. Using frames from the front mounted camera, positioned at the human eye level, the system performs face recognition with real time training of unknown subjects. It also performs human activity recognition in which each detected person is assigned to one of six action classes picked to classify ordinary and harmful student activities in a hallway setting. These action classes are walking, running, waving, standing, punching and kicking. The system is designed to detect changes and irregularities within an environment as well as familiarize with regular faces and actions to distinguish potentially dangerous behavior. We evaluate the performance of the system by comparing statistical data of faces and actions gathered by the RAIDER versus the manually captured real world data.

### **Automatic Scene Rendering for Unmanned Aerial Systems**

**STUDENTS** Yakov Diskin

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

We present a 3D reconstruction technique designed to support an autonomously navigated unmanned aerial system (UAS). The algorithm presented focuses on the 3D reconstruction of a scene using images from a single moving camera and can be used to construct a point cloud model of unknown areas. The reconstruction process, resulting in a point cloud model is computed using a feature point matching process and depth triangulation analysis, is a six step process. The first step is feature extraction from each frame of video; a neighborhood-magnitude-direction dependent matching procedure is applied to track feature points through subsequent frames. The distance a feature point travels, in pixels, becomes the feature disparity which can be translated into depth. The Cartesian depth coordinate, in the z direction, is determined using the disparity values, while the x and y coordinates are determined using the focal length information of the camera. The process consists of determining the size of the image at a particular depth and computing the width and height, x and y directions, for each feature point. The final output is a point cloud, a collection of points accurately positioned within a model. With enough points, surfaces and textures can be added to create a realistic model. An autonomous navigation control system utilizes the resulting visually reconstructed scene, centered at the current camera location, to either register its position within a known 3D model, or for obstacle avoidance and area exploration while mapping an unknown environment. The presented reconstruction algorithm forms a foundation for computer vision self-positioning techniques within a known environment without the use of GPS or any other sensor. The suitability of the reconstruction for mapping tasks is to be evaluated using ground-truth measurements of actual objects.

### **Pose Invariant Face Recognition and Tracking for Human Identification**

**STUDENTS** Chen Cui, Yakov Diskin, Binu M Nair

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Real-time tracking and recognition of people in complex environments has been a widely researched area in computer vision as it has a huge potential in efficient security automation and surveillance. We propose a real time system for detection and recognition of individuals in a scene by detecting, recognizing and tracking faces. The system integrates the multi-view face detection algorithm, the multi-pose face recognition

## **SCHOOL OF ENGINEERING**

algorithm and the extended multi-pose Kalman face tracker. The multi-view face detection algorithm contains the frontal face and profile face detectors which extract the Haar-like features and detect faces at any pose by a cascade of boosted classifiers. The pose of the face is inherently determined from the face detection algorithm and is used in the multi-pose face recognition module where depending on the pose, the detected face is compared with a particular set of trained faces having the same pose range. The pose range of the trained faces is divided into bins onto which the faces are sorted and each bin is trained separately to have its own Eigenspace. The human faces are recognized by projecting them onto a suitable Eigenspace corresponding to the determined pose using Weighted Modular Principal Component Analysis (WMPCA) technique and then, are tracked using the proposed multiple face tracker. This tracker is implemented by extracting suitable face features which are represented by a variant of WMPCA and then tracking these features across the scene using the Kalman filter. This low-level system is created using the same face database of twenty unrelated people trained using WMPCA and classification is performed using a feature correlation metric. This system has the advantage of recognizing and tracking an individual in a cluttered environment with varying pose variations.

### **Image Registration, Moving Object Detection and Tracking in Wide Area Motion Imagery**

**STUDENTS** Yakov Diskin, Kevin S. Jackovitz, Varun Santhaseelan

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Latest sensor technologies have aided in building wide area surveillance systems that are able to capture data within radius of the order of miles. The huge amount of data generated by these sensors has warranted the development of automatic image analysis systems that can aid the decision making of users or make decisions for a human in many other cases. In this research, we have developed methods to aid in the initial analysis process such as image registration, moving object detection and tracking. The effectiveness of our algorithms is illustrated on the Columbus Large Image Format (CLIF) data set. Images are registered using Harris corners and scale invariant feature transform (SIFT) descriptors. A median filter is used to build a background model which in turn is used to detect moving objects in a scene by finding a difference image. Gradient suppression is used to reduce the noise in the resultant image. The key idea in feature based tracking methods for wide area motion imagery is to utilize all the information that is present in the object region. In our case, we used SIFT descriptors to describe all the moving objects in a scene. We illustrate the effectiveness of the algorithms in tracking even very small objects. In order to eliminate the effect of shadows, we employed image enhancement algorithms to compensate for the reduction in lighting. Tracking algorithm was made more effective to track partially occluded objects using a super-resolution algorithm. In order to track completely occluded objects, a predictive mechanism based on Kalman filter is used.

### **Extracting Context Information from Aerial Imagery for Aiding Threat Detection**

**STUDENTS** Varun Santhaseelan

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Advances in computer vision have led to development of algorithms that are able to extract semantic information from images/video in order to make high level inferences from data. One of the major steps toward extracting semantic information is to identify useful contextual information present in the scene. In this research, we present a novel technique to extract context information from aerial imagery using concatenated vectors of low level features. The objective of this research is to aid in the identification of threats along the right of way of energy pipelines. The key observation of this research is that aerial imagery consists of various image segments like roads, buildings and trees along with lots of plain ground. All aforementioned segments of the image have definitive properties in terms of low level features. The information content present in plain ground is minimal when compared to other regions in the image. This characteristic was exploited to have a simple thresholding procedure designed on the basis of relative variance and entropy for fast background elimination. Trees are rich in textural content, buildings have higher contrast information and roads have discriminative color features. In this research we have extracted local phase information and local contrast information using the monogenic signal model. These features are used to train a support vector machine (SVM) which is then used for classification. In order to refine the segmentation process, we apply morphological operations on the result of the classifier. We present the results obtained by using the proposed method on various data sets captured using different camera sensors.

**Analysis of EEG Signals for the Recognition of Emotional States****STUDENTS** Theus H Aspiras**ADVISORS** Vijayan K Asari**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

The analysis of electroencephalographic (EEG) recordings for emotional states has been a new and upcoming research area that focuses on bridging the gap between psychological analysis of the brain and spatiotemporal activations in it. We have developed a system to distinguish between different emotions by extracting salient features from the EEG recordings. To elicit the emotions, pictures from International Affective Picture System (IAPS) were used to obtain five different emotions (Joy, Sadness, Disgust, Fear, and Neutral). EEG recordings are taken from a 256-channel system, preprocessed using band-pass and notch filters and a Laplacian Montage, and divided into five frequency bands (Delta, Theta, Alpha, Beta, and Gamma frequencies). The frequency bands were then used to obtain specific features from the recordings. We propose several new features, namely Normalized Root Mean Square (NRMS), Absolute Logarithm Normalized Root Mean Square (ALRMS), Logarithmic Power (LP), Normalized Logarithmic Power (NLP), and Absolute Logarithm Normalized Logarithmic Power (ALNLP). These features are tested against classical features, like Mean and Standard Deviation, and developed features like Recoursing Energy Efficiency (REE). Once the features are found, they are classified using a two-layer Multilayer Perceptron (MLP) Neural Network. It was found that the proposed Logarithmic Power feature gave the highest classification rates amongst all features, 91.82% and 94.27% recognition for two different experiments, higher than previously developed features and much higher than classical features.

**Facial Expression Analysis****STUDENTS** Nilesh U Powar**ADVISORS** Vijayan K Asari**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Psycho-physiological assessment for identifying various emotions from facial expressions has been researched for several years. Modern hi-tech growth in sensors, computer vision, and pattern recognition has helped us in characterizing an emotion automatically. The study explores the variability in facial expressions and their relation to facial imaging. Several standoff sensing technologies like Visible, MWIR, 3D cameras are used to understand the changes in the face. The proposed study is to develop a methodology for accurately extracting facial features from above mentioned modalities and to classify these signatures into positive or negative emotions.

**Brain Machine Interface Using Electroencephalograph Data as Control Signals for a Robotic Arm****STUDENTS** Kelly Cashion, Carly A Gross**ADVISORS** Vijayan K Asari**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

Brain machine interface (BMI) also known as brain computer interface (BCI) is a field of research that has been explored in varying degrees throughout the last few decades. Initial research used invasive technology in order to read the signals from the human brain. These systems required surgery in order to connect the subjects to the sensors. Recent trends have moved toward non-invasive systems that make use of non-invasive physiological sensors such as electroencephalographs (EEG). EEG systems use a number of electrodes to read electrical signals on the scalp caused by brain activity. The patterns generated by certain thoughts can be classified and recognized by a BMI system using machine learning algorithms. These classified patterns can then be encoded as commands to prompt a certain response from a computer or machine. The completed system allows for control of the connected device using thought as the only input. The possible uses for a BMI system are as varied as the designs of computer programs and computer controlled devices. One of the most noteworthy applications of BMIs is in the field of medicine. BMIs offer the tools for the disabled to interact with the world, even if they are suffering from severe nerve damage between their brain and original limbs. In the case of a lost or paralyzed limb, BMIs offer the potential for patients to use a robotic limb, controlled with their natural thought patterns, to interact with the world. BMIs also offer potential modes of communication for patients who have no other way to convey their thoughts. With

## SCHOOL OF ENGINEERING

these applications in mind, this research focuses on control of a robotic arm using a 14-electrode EEG headset. Both pure EEG signals and electromyography (EMG) signals are encoded as controls for six possible actions performed by the robotic arm.

### EEG Action Encoding

**STUDENTS** Theus H Aspiras, Kelly Cashion, Carly A Gross

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electrical and Computer Engineering, Poster - Graduate Research

The Electroencephalograms (EEGs) Action Encoding is focused on translating the EEG signals into actions such as lift, turn, grab, drop, pull, push, and so on. This research has many possible applications, but more research must be done in order to turn these ideas into a reality. It could help the handicapped use robots to complete various tasks. It could also be used to communicate with coma patients. The robots could be controlled by thoughts to accomplish tasks too dangerous for humans. In order to translate the thoughts into actions, a program will be trained to recognize patterns in the EEG that are associated with one of these actions. Multiple challenges include variations in thought patterns between people and differences in thought patterns between thinking about and actually performing an action. An appropriate plan to collect and translate the data has been formulated. The patient will be fitted with the Data Acquisition Device and their brainwaves will be collected while they perform various tasks. This data will be filtered to remove noise and eye blinks, and then used to train the program.

### Bidirectional Beam Propagation Method for Second-Harmonic Generation in Engineered Multilayer Photonic Bandgap Structures

**STUDENTS** Han Li

**ADVISORS** Partha P Banerjee

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electro-Optics Graduate Engineering Program, Poster - Graduate Research

The transfer matrix method (TMM) has been used to analyze plane wave and beam propagation through linear photonic bandgap structures. Here, we apply TMM to determine the exact spatial behavior of TE and TM waves in periodic refractive index nonlinear structures of arbitrary thickness. First, we extend the TMM approach to analyze plane wave propagation through Kerr type nonlinear media. Secondly, in the second order nonlinearity case, the proposed TMM takes into consideration reflections and the interferences between the forward and backward-propagating waves but the nonlinear process is assumed to be weak so that the pump wave is unaffected by the nonlinear process thus the undepleted approximation. Finally in the second order nonlinearity case, the TMM is applied to study beam propagation in such media by applying the TMM to its angular spectrum components.

### Nonlinearly Induced Refractive Index Measurements by Using a Probe Beam.

**STUDENTS** Ujitha A Abeywickrema

**ADVISORS** Partha P Banerjee

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electro-Optics Graduate Engineering Program, Poster - Graduate Research

Self phase modulation is a nonlinear effects that is observed when a laser beam is focused on to a high-absorbing thermal medium. The refractive index of the medium changes due to the heat generated by the focused laser pump beam. In this paper, self phase modulation is investigated in different ways. An Ar-Ion laser of 514 nm is used as the pump beam and a 632 nm He-Ne laser is used as the probe beam. The probe beam is introduced from the opposite side of the pump beam. Ring patterns are observed from the each side of the sample. Regular far field ring patterns are observed from the pump beam, and two sets of rings are observed with the probe beam. The behavior of these inner and outer rings are monitored for different pump powers. A regular tea sample in a plastic cuvette is used as the nonlinear absorbing sample. The steady state heat equation is solved to obtain an exact solution for the radial heat distribution and far field ring patterns are simulated using the Fresnel' Kirchhoff diffraction integral. Ring patterns are theoretically explained using simulations results, and compared with experimental observations. Finally, an interferometric setup using the low power He-Ne laser is also used to determine the induced change in refractive index. Results are compared with those obtained directly from self-phase modulation and from the probe beam method.



**Beam steering by KTN crystal(Potassium tantalate niobate)****STUDENTS** Hongwei Chen**ADVISORS** Qiwen Zhan**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Electro-Optics Graduate Engineering Program, Poster - Graduate Research

My research is an experimental study of an optical beam steering phenomenon based on EO effect and space-charge-controlled electrical condition. A large deflection angle is expected by applying a relatively low voltage to a 0.5-mm-thick KTN crystal with a short interaction length of 5.0 mm. In theory, the electrical condition is carried by electrons injected from the Ohmic contact of the electrodes. The injected electrons induce the space-charge effect and the electrical field becomes uniform while the electrical field has a square root dependence on the distance from the cathode. So, a linearly graded refracted index is induced and the optical beam is cumulatively deflected as it propagates in the crystal.

**Design and Prototyping of a 3D Shape Changing Mechanism****STUDENTS** Joshua E. Nieman**ADVISORS** Andrew P Murray, David H Myszka**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Engineering Technology, Poster - Graduate Research

Rigid-body shape-changing mechanisms are composed of a set of links and revolute joints and have the capacity to morph between shapes when actuated. This project examines the challenges associated with the design of a mechanism for morphing from a "U" to a "D". The initial stage of designing a shape-changing mechanism is completed in two dimensions and yields a design containing a large number of links and joints. Moving this planar concept into a 3D, fully realizable device provides an additional set of design challenges. The stacking, or identifying the vertical ordering of the links, is the challenge. Without a thorough consideration of the motion of the device, links are likely to collide with each other or with joint axes. Stacking issues were identified and remedied via a 3D CAD program. The resulting mechanism was fabricated to provide proof of concept.

**Simulated Performance Analysis of Novel Automotive Spring-Starter Designs using Experimentally Derived Dynamic Engine Models****STUDENTS** Jonathan W Lauden**ADVISORS** Andrew P Murray, David H Myszka**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Engineering Technology, Poster - Graduate Research

Automotive starting systems require substantial amounts of mechanical energy in a short period of time. Lead-acid batteries have typically been used with a motor to provide that energy. Springs have been identified as an alternative energy storage medium and are well suited to engine-starting applications due to a long service life and the ability to rapidly deliver substantial mechanical power. This research aims to explore the feasibility and potential benefit of a spring-based engine-starting system. A dynamic engine model was first developed by collecting data from a 600cc 4 cylinder engine and electric starting system. The model was used to simulate the engine response for several spring-based starting system designs. Each system was then evaluated on the basis of weight, volume, engine speed produced, and ability to crank the engine for several seconds.

**The Development of a Spring Powered Starter for a Motorcycle****STUDENTS** Patrick M Joyce**ADVISORS** Andrew P Murray, David H Myszka**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Engineering Technology, Poster - Honors Thesis

In agreement with recent efforts to develop more efficient vehicles that will have less detrimental effect on the environment, research is being conducted to explore storing energy in different forms. Almost all vehicles use a chemical battery to provide energy to a motor to start its engine. Chemical batteries have inherent adverse effects on the environment, specifically biodegradation. In the case of large trucks, the batteries and starter system is quite heavy, reducing fuel economy. This project focuses on using material elasticity for storing energy. Specifically, the research

## SCHOOL OF ENGINEERING

involves the development of a spring starter system that will be lighter and more environmentally friendly than its chemical counterparts. This project centers on the design of a prototype concept for a spring starter system on a motorcycle.

### Analysis and Design of Reconfigurable Linkages for Industrial Tasks

**STUDENTS** Lin Li

**ADVISORS** Andrew P Murray, David H Myszka

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mechanical and Aerospace Engineering, Poster - Graduate Research

The automation of repetitive tasks is a critical part of modern manufacturing and assembly processes. Robotics is one widely adopted solution, with the associated maintenance and energy costs and the reduction in throughput. These repetitive tasks may also be accomplished by dissecting them into a sequence of simple tasks solvable by lower complexity devices. These devices are typically high reliability, low cost and, unfortunately, dedicated to solving one problem. These lower complexity devices, if reconfigurable, offer the potential advantages of both robotics and dedicated machinery. The broad goal of this research is to analyze a variety of reconfigurable linkages for use in these tasks and produce the principles for their design. More technically, this research implements planar analysis theory utilizing isotropic coordinates to allow for the construction of mathematical models of planar linkages composed of rigid bodies, revolute joints, and prismatic joints. A graphical representation has been developed to represent the gross motion characteristics of linkages called a singularity map. The singularity map provides a visual snapshot of the effects of the reconfigurability on the linkage by including the number of assembly circuits and the location of locked configurations. Bertini, a powerful tool for working with large algebraic systems of equations, allows for the solution to the complex systems arising in this design challenge. MATLAB is then used to integrate from the Bertini solutions to plot the complete singularity map.

### Defect-Free Slider-Crank Function Generation Including Position, Velocity, and Acceleration Specification

**STUDENTS** Ali Almandeel

**ADVISORS** Andrew P Murray, David H Myszka

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mechanical and Aerospace Engineering, Poster - Graduate Research

The slider-crank linkage is ubiquitous in machinery, from the piston/connecting rod/crankshaft in an IC engine to the flywheel/connecting rod/ram of a mechanical press. Function generation is the method by which slider-crank linkages may be designed to have a desirable set of kinematic properties. The kinematic properties are defined by the curve that relates the rotation of the input link of the slider-crank to the distance of slide produced at the output. The well-established methodology for slider-crank function generation states that five points can be selected to generate one of these curves. The five point methodology does not guarantee that the resulting linkage includes an input link that is capable of a full rotation, a necessity in most practical problems. Moreover, the methodology can result in linkages containing circuit defects. The problems of required full rotation and of avoiding circuit defects are addressed in this research. This research also addresses constraints on velocities and accelerations in the design process.

### Four-bar Linkage Synthesis for A Combination of Motion and Path-point Generation

**STUDENTS** Yuxuan Tong

**ADVISORS** Andrew P Murray, David H Myszka

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mechanical and Aerospace Engineering, Poster - Graduate Research

The goal of this project is the development of techniques that helps address the design of pick-and-place machines. Pick-and-place, common in assembly and manufacturing tasks, refers to the action of retrieving a part at one location and transporting (and reorienting) it to a second location. Pick-and-place tasks have rigid end-of-motion requirements needing exact positions and orientations. Between these end configurations, the motion restrictions are less rigorous. This challenge is addressed via GCP and the development of new design theory. Geometric Constraint Programming (GCP), adept in addressing kinematic synthesis challenges, is the set of tools available in any CAD package that allows for the specification of relationships between line segments, while allowing the lengths of those line segments to be variable. New design theory has identified the equations that effectively describe pick-and-place problems and resulted in new solution methodologies.

**A Pilot Study of the Effect of an Acute Vestibular Therapy on Postural Stability and Gaze Patterns of Children with Autism Spectrum Disorder****STUDENTS** Senia I. Smoot**ADVISORS** Kimberly E Bigelow**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mechanical and Aerospace Engineering, Poster - Graduate Research

Children with Autism Spectrum Disorder (ASD) struggle with sensory regulation, resulting in abnormal gaze patterns and decreased postural stability. Sensory integration (SI) therapy is a common therapy used to help children with ASD with these issues, however, there is insufficient quantitative research concerning its effectiveness. A pilot study is currently being conducted to quantify the acute effects of a SI vestibular treatment on postural stability and gaze patterns. Both children diagnosed with ASDs and typically developing children are participating in the study, and test methods include quiet standing posturography and analysis of socially relevant visual fixations recorded by a mobile eye tracking unit. The format of the study is a pretest/posttest and the selected SI therapy was a vestibular swing. This ongoing pilot study is designed to ascertain experimental feasibility, data collection procedures, data trends, and sample size requirements for larger, future studies.

**Effect of Compliant Flooring on Postural Stability in an Older Adult Population****STUDENTS** Renee Lynn Beach**ADVISORS** Kimberly E Bigelow, Kurt J Jackson**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mechanical and Aerospace Engineering, Poster - Graduate Research

Balance, or the ability to stand upright unassisted without falling, is affected by the brain's ability to process sensory information from an individual's vision, muscles, and joints. Researchers have studied how elderly patients often have problems in these systems and therefore struggle with balance putting them at higher risk of falling. Since older individuals with postural instability are up to 5 times more likely to fall, environmental changes to decrease amount of falls and fall related injuries is vital. Compliant flooring is a novel approach shown to reduce the amount of injuries from falls by absorbing up to 50% of the impact from a fall. The purpose of this study was to analyze whether these newer floorings had the trade-off of negatively affecting balance and functional movement due to their compliance. 20 healthy older adults underwent static balance testing as well as functional balance testing. Participants were instructed to stand on three different types of flooring, performing the tasks of sitting to standing, turning in a circle, putting on a sweater, picking up an object, standing still with eyes open, standing still with eyes closed, and leaning at the ankle forward, backward and side-to-side. A force platform and inertial measurement units (IMUs) were used to record center of pressure (COP) and trunk kinematics. Medial/Lateral (M/L) and Anterior/Posterior (A/P) COP sway range and Time to Stabilization (TtS) were among the variables calculated. Initial results show significantly increased A/P postural sway ( $p < 0.05$ ) on the compliant flooring, with eyes open and eyes closed. No statistically significant differences were found in sway ranges during the Limits of Stability task. This work will help living communities with individuals at high fall risk, such as nursing homes, be better informed of options for preventing injuries due to falls.

**National Science Foundation - Research Education for Teachers and the Experience for Students****STUDENTS** Ronald Joseph Backhaus, Alyssa M Depaola, David H Foster, Jessica Messick, Erin L Patterson, Benjamin M Schultheis, Christopher V Wagner, Rachel K White, Erin M Yacovoni**ADVISORS** Margaret F Pinnell**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mechanical and Aerospace Engineering, Poster - Independent Research

The National Science Foundation ' Research Education for Teachers was comprised of nine students, five engineering and four education, and a large number of professional educators and engineers. The program lasted six weeks and allowed for the students and professionals to explore both STEM curriculum development and engineering design challenges. This program was intended to be an educational experience for everyone involved: the education students were presented with a broader knowledge of the different fields of engineering, and the engineering students gained insight into the standards and development of STEM curriculum. The program was a success from the perspective of participating students, as each found it to be a positive experience which affected their personal educations as they move through their college careers.

## Characterization of Emissions from the Combustion of a Selected Surrogate for Aviation Fuels

**STUDENTS** Giacomo Flora

**ADVISORS** Sukhjinder S Sidhu

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mechanical and Aerospace Engineering, Poster - Graduate Research

In this study, emissions from a surrogate of aviation fuel components have been characterized. The proposed surrogate includes n-dodecane and m-xylene with 75% and 25% by liquid volume, respectively. The combustion was investigated behind reflected shock waves to obtain ignition delay times and quantify yields of a range of stable combustion products including volatile gases, aldehydes, PAHs (polycyclic aromatic hydrocarbons) and soot. The experimental conditions covered a temperature range of ~980-1500 K, at pressures of 18 atm, at an equivalence ratio of 3, using argon as the diluent (93 % vol). In all experiments, dwell times were kept in the range of 7.55-7.85 ms by using a suitable argon-helium mixture as the driver gas. The collected gas samples from shock tube experiments were analyzed using GC-TCD for light gases and GC-MS was used for aldehydes, volatiles and semi-volatiles. The mass of the collected particulate matter (PM) was determined via the temperature programmed oxidation (TPO) / carbon burn-off method. The present work provides comprehensive emissions characterization data for the validation of combustion kinetic models, and valuable comparisons for selecting future alternate jet fuels based on their emissions

## Improving the Techniques for Center of Mass Estimation Using Statically Equivalent Serial Chain Modeling

**STUDENTS** Bingjue Li

**ADVISORS** Andrew P Murray, David H Myszk

**LOCATION, TIME** RecPlex, 11:00 AM-12:30 PM

Mechanical and Aerospace Engineering, Oral Presentation - Graduate Research

Any articulated system of rigid bodies defines a statically equivalent serial chain (SESC). The SESC is a virtual chain that terminates at the center of mass (CoM) of the articulated system. Moreover, this chain moves as the joints in the system move thereby keeping its terminus at the CoM. A SESC may be generated knowing only the types of joints in a system and the manner in which they are connected. The parameters in the SESC may then be determined from joint readings and the corresponding (projection of the) CoM location. The number of data points needed to determine the SESC parameters is linear in the number of joints in the articulated system. Three developments toward recognizing the SESC as a practical modeling technique are presented. First, a SESC is developed via experimentation for a spatial system. Second, a prediction for the number of readings to determine the SESC parameters in the presence of errors in joint readings and CoM locations is developed. Finally, a method for generating the parameters of the SESC in light of one body in the chain being fixed to ground is presented so long as the fixed body is the same as or the mirror image of a second body in the chain. This final development is useful in the study of humans or humanoids where one foot is typically left on the ground during balancing.

## Smartphone Based Optical Sensor

**STUDENTS** Zhenyu Yang

**ADVISORS** Qiwen Zhan

**LOCATION, TIME** LTC Meeting Space, 1:00 PM-1:20 PM

Electro-Optics Graduate Engineering Program, Oral Presentation - Graduate Research

Optical sensing is one of the most powerful techniques used to explore the micro-world. Many bio-medical and clinical applications have been developed in the last few decades. However, these optical sensor designs are usually large, heavy-duty machines, which limit their applicability to only use in the laboratory setting. The goal of this project is to design a portable miniature optical sensor. The proposed smartphone based optical sensor is built with an iPhone and additional simple optical instruments. It has the resolution of microns and advanced optical information sensing, such as polarized and phase information.

## An Automatic Visibility Improvement and Object Detection System for Wide Area Surveillance Applications

**STUDENTS** Sai Babu Arigela

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** Kennedy Union 207, 1:00 PM-1:40 PM

Electrical and Computer Engineering, Oral Presentation - Graduate Research

In wide area video surveillance and computer vision applications, object detection, recognition and tracking in aerial imagery is still a challenging problem. Aerial tracking of multiple moving objects is however much more challenging because of the small object sizes, lack of resolution, and low quality imaging. The input images captured in real-time environments can be easily affected by various layers of atmosphere, light sources, cameras and geometric positions. For example, a self navigating ground, air-based and underwater vehicle systems will face different lighting conditions such as extreme dark, dark, bright, extreme bright, and shadows, various weather conditions such as haze, fog, turbid, snow, rain, smoke, cloud, and under water, and different kinds of environmental noise in different geometrical positions. Hence there is a need for improvement of images in all these cases. The complexity of large variations of the appearance of the object and the background in a typical aerial image causes the performance degradation of existing detection/tracking techniques. We propose a new pre-processing model to improve the quality of input image and making it suitable for specific objectives mentioned above by the integration of three modules viz. image enhancement/luminance correction, haze/fog/turbid removal, and single image super resolution.

### **Regression based Learning of Human Actions from Video using Histogram of Flow and Local Binary FlowPatterns.**

**STUDENTS** Binu M Nair

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** Kennedy Union 207, 1:40 PM-2:00 PM

Electrical and Computer Engineering, Oral Presentation - Graduate Research

A suitable motion descriptor and an appropriate human action recognition framework is proposed which models motion variations corresponding to a particular class of actions without the need for sequence length normalization and invariant to the speed of motion. The motion descriptors are based on the optical flow vectors computed at every point on the silhouette of the human body. Histogram of flow(HOF) is computed from the optical flow vectors and these give the motion orientation in a local neighborhood. To get a relationship between the motion vectors at a particular instant, the magnitude and direction of the optical flow vector are coded with local binary patterns(LBP). The concatenation of these histograms(HOF-LBP) are considered as the action feature set to be used in the proposed framework. We illustrate that this motion descriptor is suitable for classifying various human actions when used in conjunction with the proposed action recognition framework which models the motion variations in time for each class using regression based techniques. The feature vectors extracted from the training set are suitably mapped to a lower dimensional space using Empirical Orthogonal Functional Analysis. A regression based technique such as Generalized Regression Neural Networks(GRNN), are used to compute the functional mapping from the action feature vectors to its reduced Eigenspace representation for each class, thereby obtaining separate action manifolds. The action feature set extracted from a test sequence are classified by computing and comparing the test coefficients with those corresponding to each action manifold (those estimated by each GRNN model) using Mahalanobis distance. The action manifold which gives the closest distance to the test sequence is the estimate of the type of action being performed. Results have been obtained on the public data sets such as the Weizmann, the Cambridge Hand Gesture and IXMAS action data sets.

### **Video Segmentation for Automatic Extraction of Human Body Region for Action and Activity Recognition**

**STUDENTS** Fatema A Albaloooshi

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** Kennedy Union 207, 2:00 PM-2:20 PM

Electrical and Computer Engineering, Oral Presentation - Graduate Research

Automatic video segmentation for human activity recognition has played an important role in several security and surveillance applications. Several segmentation algorithms have been developed and applied over the past decade such as compression-based methods, histogram-based methods, region-growing methods, split-and-merge methods, partial differential equation-based methods, and many more. Active Contour Model (ACM) has been used extensively for unsupervised adaptive segmentation and automatic object region and boundary extraction in video sequences. This research introduces an optimizing method for ACM using Hopfield Neural Network (HNN) for automatic human body region and boundary extraction in human activity video sequences. Taking advantage of the collective computational ability and energy convergence capa-

## **SCHOOL OF ENGINEERING**

bility of HNN, energy function of ACM is optimized with lower computational time. The active contour model identifies each region using certain region descriptors that guide the motion of the initial contour towards the actual region of interest. The system starts with initializing HNN state based on the initial boundary points and ends up with final states of neurons which represent actual boundary points of human body region. The initial contour of the ACM is computed using background subtraction based on Gaussian Mixture Model (GMM) such that background model is built dynamically and regularly updated to overcome different problems including illumination changes, camera oscillations, and changes in background geometry. The recurrent nature of the Hopfield neural network is useful for dealing with optimization problems due to its dynamic nature, thus, ensuring convergence of the system. With the parallel processing potential of Hopfield neural networks, the proposed boundary detection and region extraction can be used for real time processing. This method results in an effective segmentation that is less sensitive to noise and complex environments. Experiments on different databases of human activity show that our method is effective and can be used for real-time video segmentation.

### **Blur Processing Using Double Discrete Wavelet Transform**

**STUDENTS** Yi Zhang

**ADVISORS** Keigo Hirakawa

**LOCATION, TIME** Kennedy Union 311, 2:00 PM-2:20 PM

Electrical and Computer Engineering, Oral Presentation - Graduate Research

We propose a notion of double discrete wavelet transform (DDWT) that is designed to sparsify the blurred image and the blur kernel simultaneously. DDWT greatly enhances our ability to analyze, detect, and process blur kernels and blurry images; the proposed framework handles both global and spatially varying blur kernels seamlessly, and unifies the treatment of blur caused by object motion, optical defocus, and camera shake. To illustrate the potential of DDWT in computer vision and image processing, we develop example applications in blur kernel estimation, deblurring, and near-blur-invariant image feature extraction.

### **Wide Area Surveillance for Security Automation**

**STUDENTS** Yakov Diskin

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** Kennedy Union 207, 2:20 PM-2:40 PM

Electrical and Computer Engineering, Oral Presentation - Graduate Research

Surveillance techniques and technologies can be traced back for thousands of years. From the Babylonian era watchtowers to hot-air balloons observations during the Civil War to modern camera surveillance and drone patrol, people have always had a need to survey and analyze their surroundings in order to feel safe. Traditionally, surveillance has always relied on a human, such as security guard or video analyst, to patrol and study an environment, identify potential hazards and respond accordingly. In order to save manpower, reduce costs, monitor larger areas and maintain high accuracy, automatic computer-vision-based techniques are developed by the University of Dayton. In this presentation, we illustrate the progress in the development of surveillance technologies and their effects on aerial patrol, indoor and outdoor surveillance, marine and ocean monitoring and even space/planet exploration. These cutting edge technologies are used and funded by all branches of the U.S. military as well as research and science organizations such as NASA. The rapidly growing field of Wide Area Surveillance involves processing of images and video streams captured from sensors mounted onto air crafts flying at an altitude of 15000+ feet and capturing extremely high resolution data of the 10+ square miles of the ground below. Computer-vision-based techniques allow for automatic identification of humans, automatic tracking of targets, self-tuning visibility improvement and autonomous drone navigation and decision making. As a result, areas that used to require thousands of security personnel are now monitored by a single aircraft and on board computer-vision algorithms, and humans have become the supervisors of such autonomous surveillance systems.

### **Towards A "Self-Tuning" Camera**

**STUDENTS** Wu Cheng, Chen Zhang

**ADVISORS** Keigo Hirakawa

**LOCATION, TIME** Kennedy Union 311, 2:20 PM-3:00 PM

Electrical and Computer Engineering, Oral Presentation - Graduate Research

In digital camera system, raw image data acquired by sensor have to be processed and restored before displayed to users because image acquisition is always coupled with degradation, such as noise, camera shaking, etc. Parameter tuning plays an essential role in image restoration.

However camera manufactures have to spend a considerable amount of time and money on tuning parameter subjectively. The major obstacle of a 'self-tuning' camera is the absence of an image quality assessment (IQA) metric without requiring ideal reference image. We propose a new category of IQA, corrupted-reference image quality assessment (CR-QA), which is designed for evaluating image quality without ideal reference. Therefore it can make the automatic tuning process come true, pointing a way towards "self-tuning" camera.

### **Detection of Whale Blows in Infrared Video**

**STUDENTS** Sai Babu Arigela, Varun Santhaseelan

**ADVISORS** Vijayan K Asari

**LOCATION, TIME** Kennedy Union 207, 2:40 PM-3:00 PM

Electrical and Computer Engineering, Oral Presentation - Graduate Research

Computer vision technology has become a blessing to other researchers who have to analyze large amounts of video data. In this research, we aim to reduce the workload on whale researchers by automating the monitoring mechanism used to study whale migration. One of the major tasks in studying the migratory behavior of whales is detection and counting the number of whales that pass through a particular region. However, when long range infrared cameras mounted along the shores are used for monitoring, the whales are not detected. Instead, the spouts generated by whales are monitored. Based on the timing of spouts or whale blows, the number of whales passing through the region is estimated. Our research focuses on methods to detect whale blows in the captured video. Some key observations of whale blows in infrared video are, (1) whale blows have higher intensity with respect to the background, (2) characteristic shape for the blow when it reaches full size, (3) minimum distance between two whale blows, and (4) characteristic variation in the shape of the blow over time. The initial step of the algorithm is to threshold the image. Adaptive thresholding is applied according to the characteristics of the local neighborhood. Characterization metrics called cumulative absolute difference and cumulative difference are defined for eliminating false detections. The final step in detection is the use of a neural network classifier to eliminate other false detections. We have also developed a complimentary method where false detections were eliminated based on the variation of local relative variance measure. Local fractal dimension was then used as the elimination criterion for the final detection. We present results based on all the proposed algorithms as well as the primitive version of a tracking methodology developed based on the timing constraints of whale blows.

### **Surrogate models and their applications in aerospace engineering**

**STUDENTS** Komahan Boopathy

**ADVISORS** Markus P Rumpfkeil

**LOCATION, TIME** Kennedy Union 207, 3:20 PM-3:40 PM

Mechanical and Aerospace Engineering, Oral Presentation - Graduate Research

Numerical simulations are extensively used in engineering research to solve real world problems whose analytical solutions are unknown. Despite the advancements made in computer hardware and the deployment of High Performance Computing, there exists an acute imbalance between the requirements and availability of computational power, especially when dealing with high-fidelity CFD simulations. For example, a straight-forward airfoil shape optimization requires many optimizer iterations and hence the required number of flow-solves can easily surpass several thousands, potentially demanding enormous computational time and storage. With a relatively meager computational power at hand, the research community has to trade-off accuracy for computational time or limit their design spaces, which may lead to inefficient designs. In order to curb the predicaments involved in high-fidelity simulations, the idea of a surrogate model was introduced. A surrogate model replaces expensive function evaluations with an approximate but inexpensive functional representation. A lot of today's research is focused on studying methods to improve the accuracy of models as well as developing versatile and robust surrogates. Recently, we developed a variable fidelity Kriging surrogate model that is enhanced by Multivariate Interpolation and Regression (MIR) and dynamic training point selection, wherein we use MIR as a local surrogate model that guides the construction of the global Kriging surrogate. The adaptive training point strategy that we use adds training points at locations where the difference between local and global surrogate's prediction differ by a given threshold. The exact function evaluations are called only at these locations and the model is iteratively updated until convergence or a maximum number of evaluations has been reached saving a lot of computational time. We demonstrate the efficiency of our enhanced surrogate on multi-dimensional analytic test functions and discuss potential applications such as building aerodynamic databases, uncertainty quantification, and optimization under uncertainty.

## **SCHOOL OF ENGINEERING**

### **Optical System for Arbitrarily Complex Optical Vector Field Generation**

*\*DISSERTATION YEAR FELLOWS AWARDEE*

**STUDENTS** Wei Han

**ADVISORS** Qiwen Zhan

**LOCATION, TIME** Kennedy Union 222, 3:20 PM-3:40 PM

Electro-Optics Graduate Engineering Program, ORAL PRESENTATION - GRADUATE RESEARCH

The generation of arbitrary optical fields is of great interest in areas where exotic optical fields are desired, such as particle manipulation and beam shaping. In this work, an optical system that is capable of generating arbitrarily complex beam is proposed, built and tested for the first time to the best of our knowledge. Based on reflective, phase-only spatial light modulator, the Full Control System is capable of controlling all the aspects of light, including the phase, amplitude and polarization information spatially on a pixel by pixel basis. Various optical fields containing phase, amplitude or polarization modulation are generated and tested using Stokes parameter measurement. The system is expected to have promising potential as a novel and versatile beam generation system.

### **Senior Capstone Project to develop a curriculum for an American Company in China that deals with controls for Industrial Automation.**

**STUDENTS** Gretchen Berkemeier

**ADVISORS** Kelly Kissock, Phil Doepker

Mechanical and Aerospace Engineering, ORAL PRESENTATION - GRADUATE RESEARCH

### **Innovative Design and Entrepreneurship Team Project conducted at UDCl in China**

**STUDENTS** Zhenghang Gu

**ADVISORS** Guru Subramanyan, Phil Doepker

Electrical and Computer Engineering, ORAL PRESENTATION - GRADUATE RESEARCH

### **Workshop coordinator for the Energy Efficient Manufacturing Program, Summer 2012 in Suzhou, China**

**STUDENTS** Hang Zhang

**ADVISORS** Kelly Kissock, Phil Doepker

Mechanical and Aerospace Engineering, ORAL PRESENTATION - GRADUATE RESEARCH

**LOCATION, TIME** Kennedy Union 310, 3:30 PM-4:30 PM

The University of Dayton China Institute (UDCI) officially came into existence August 8, 2012 with a Grand Opening in Suzhou Industrial Park (SIP). Prior to this the groundwork was laid for the UDIC to occupy the building. This included identifying partner companies, establishing links with universities in China, identifying internal collaborations with groups at the UD main campus, designing the layout and furnishing the facility and teaching classes both in the facility and at partner companies.

The University of Dayton China Institute has the potential to elevate the University of Dayton into the realm of global American universities. We will become a more diverse, multicultural and international university. We will expand and diversify our research partnerships. We will develop new revenue streams. More importantly, we will educate students for the world they will enter. The University of Dayton, in the Marianist tradition, graduates students who combine competence with character and community-building skills. Yet graduates also need a more international perspective to compete in today's job market. The University of Dayton is poised to provide the world with American and Chinese graduates who can excel in their professions and collaborate in the workplace – locally and globally.

This presentation and panel discussion will concentrate on recent activities that have involved students and faculty at the University of Dayton. The panel discussion will permit attendees to learn more about the past, present and future of UDCl.



## NAME - TITLE | LOCATION/TIME

- Abbas, Fatma H (MS) - *Speedway Pay Period Verification System* | **Miriam Hall 207, 2:50-3:20**
- Abbate, Megan R (ENG, EVA) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Abdelal, Misrin R (AEE) - *Effect of Voids on Delamination Behavior Under Static and Fatigue Mode I and Mode II* | **RecPlex, 11:00-12:30**
- Abeyswickrema, Ujjitha A (EOP) - *Nonlinearly Induced Refractive Index Measurements by Using a Probe Beam* | **RecPlex, 11:00-12:30**
- Abojoudou, Mariana E (CEE) - *Denatium Benzoate Removal from Water Sources Using Oxidation with Chlorine* | **RecPlex, 11:00-12:30**
- Acevedo, Andres E (SPN, PLW) - *PRESENTING AND HIGHLIGHTING THE STAGGERING AND SHOCKING STATISTICS OF HUMAN TRAFFICKING IN THE USA* | **RecPlex, 9:00-10:30**
- Adams, Alicia (ECP) - *Not a Family Tradition: First-generation College Student Success* | **LTC Forum, 4:30-6:30**
- Aduji, DRK Chaitanya (CHM) - *Mechanistic studies of inhibitors of DNA replication restart pathways in *Neisseria gonorrhoea** | **RecPlex, 11:00-12:30**
- Ahern, Grace C (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Alagia, Gianina E (FIN) - *Projecting Stock Price Movements with Fair Value Analysis* | **RecPlex, 9:00-10:30**
- Alajmi, Basel M (ACC, ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Albaloooshi, Fatema A (ELE) - *Water Body Segmentation in Aerial Imagery* | **RecPlex, 11:00-12:30**
- Albaloooshi, Fatema A (ELE) - *Video Segmentation for Automatic Extraction of Human Body Region for Action and Activity Recognition* | **Kennedy Union 207, 2:00-2:20**
- Albanese, Frances D (BIO, PSY) - *Health Belief Model and Risk-Seeking Behavior as Indicators of Chosen Listening Levels of Youth* | **RecPlex, 11:00-12:30**
- Alferi, James M (BIO) - *A Year-Long Study of Carrion, Insects, and Scavengers* | **RecPlex, 11:00-12:30**
- Alferi, James M (BIO) - *Succession and Female Gravid Status of *Chrysomya rufifacies* and *Cochliomyia macellaria* on Carrion* | **RecPlex, 11:00-12:30**
- Alizadeh, Nicole S (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Allen, Evan C (CMM) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Allcock, Ralph G (POL) - *Interest Groups, Money and Influence* | **LTC Studio, 2:30-3:30**
- Almendeel, Ali (MEE) - *Defect-Free Slider-Crank Function Generation Including Position, Velocity, and Acceleration Specification* | **RecPlex, 11:00-12:30**
- Alshawayh, Mohrah M (EAH) - *Learning Outside of the Walls: Extra Curricular Activities and Student learning* | **LTC Forum, 4:30-6:30**
- Alwan, Mary C (POL, HRS, WGS) - *The Impact of Female Peacekeepers on Culture and Gender* | **Kennedy Union Torch Lounge, 1:00-2:00**
- Alwan, Mary C (POL, HRS, WGS) - *Peacemakers: Women of Liberia* | **Kennedy Union Torch Lounge, 1:00-4:00**
- Alwan, Mary C (POL, HRS, WGS) - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 2:00-3:00**
- Ananthanarayanan, Hariharan (ELE) - *Independent Feeding Device* | **RecPlex, 11:00-12:30**
- Anderson, Erin M (EMS) - *Educating for a Global Community: UD's African Immersion Experience Program* | **Kennedy Union 331, 3:00-4:30**
- Angerer, Frances M (EDL) - *Faculty Student Services Training: The Fourth Pillar of Faculty Life* | **LTC Team Space, 4:30-6:30**
- Anyanwu, Ezechukwu (CME) - *Low Alloy Steel Susceptibility to Stress Corrosion Cracking in Hydraulic Fracking Environment* | **RecPlex, 11:00-12:30**
- Archer, Matthew D (THE) - *Proclaiming Christ: Genre and Christology in Thomas Aquinas and Karl Barth* | **Kennedy Union 312, 3:00-3:20**
- Arens, Kevin C. (CME, CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Arigela, Sai Babu (ELE) - *Multi-Scale Local Fourier Phase Based Feature Learning for Single Image Super Resolution* | **RecPlex, 11:00-12:30**
- Arigela, Sai Babu (ELE) - *Enhancement of Images Captured in Complex Lighting Environments for Visual Quality Improvement* | **RecPlex, 11:00-12:30**
- Arigela, Sai Babu (ELE) - *An Automatic and Locally Tunable Transformation Function for Fog and Haze Removal in Aerial Imagery* | **RecPlex, 11:00-12:30**
- Arigela, Sai Babu (ELE) - *An Automatic Visibility Improvement and Object Detection System for Wide Area Surveillance Applications* | **Kennedy Union 207, 1:00-1:40**
- Arigela, Sai Babu (ELE) - *Detection of Whale Blows in Infrared Video* | **Kennedy Union 207, 2:40-3:00**
- Aronow, Andrew J (PHY) - *Sample Preparation Techniques for Transmission Electron Microscopy for Erbium Arsenide Metal Nano-Particles and Indium Arsenide Quantum Dot Structures, InAs/InGaSb Superlattice Structures, and Iron Oxides* | **RecPlex, 11:00-12:30**
- Aronow, Andrew J (PHY) - *Social Justice Service Learning Organization 2012-2013 Service Projects* | **RecPlex, 9:00-10:30**
- Arthur, Brittany (ECP) - *Veterans Voices: Veteran Success in Higher Education* | **LTC Forum, 4:30-6:30**
- Asel, Thaddeus J (PHY, REL) - *Infrared Transmission Spectroscopy of CVD graphene on Si/T. J. Asel, S. Elhamri; University of Dayton, Physics Department, Dayton, OH. Shin Mou, Gall J. Brown, and W. C. Mitchell; Air Force Research Laboratory, Materials & Manufacturing Directorate, Wright-Pat* | **RecPlex, 11:00-12:30**
- Ashcraft, Mary E (CMM) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Ashe, Braden G (CMM) - *Ohio Laws to Combat Human Trafficking: Somewhat Flawed Despite Significant Strides Made* | **RecPlex, 9:00-10:30**
- Aspiras, Theus H (ELE) - *Analysis of EEG Signals for the Recognition of Emotional States* | **RecPlex, 11:00-12:30**
- Aspiras, Theus H (ELE) - *EEG Action Encoding* | **RecPlex, 11:00-12:30**
- Aston, Cole P (FIN, ENT) - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | **Miriam Hall 109, 1:00-2:00**
- Aston, Cole P (FIN, ENT) - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**
- Athmer, Adam W. (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Backer, Mary Elizabeth (ECE) - *Research on Instruction in p-12 Schools* | **RecPlex, 9:00-10:30**
- Backhaus, Ronald Joseph (ECT) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Backscheider, Justin E (CJS) - *Private versus Public: An examination of the Juvenile Justice System.* | **St. Joseph's Hall 013, 11:00-12:00**
- Baker, Cory (ELE) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Baldwin, Emily C - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Ballenger, Alyx E (PSY) - *After the Abuse* | **RecPlex, 9:00-10:30**
- Ballmann, Dominique M (INS) - *Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Banfield, Lauren E (VCD) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Bare, Steven A (PSY) - *Cognitive Appraisals in a Deception Task* | **RecPlex, 11:00-12:30**
- Barker, Rachel E (BIO) - *A riparian forest invader, alters cross-system subsidies that change ecosystem processes* | **RecPlex, 11:00-12:30**
- Barland, Benjamin E (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Barnas, Adam (PSY) - *Do Measures of Ocular Gaze Correlate with Subjective Ratings in Assessing Aesthetic Preferences for Faces?* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *The Role of Visual and Proprioceptive Limb Information in Affordance Judgments and Action Capabilities* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *The Effect of Graphic Quality in Virtual Environments on the Perception of Egocentric and Exocentric Distances* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *The Effect of Context Upon the Perception of Egocentric and Exocentric Distances Using a Walkable Human Muller-Lyer Illusion* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *Decoupling the Biomechanics of Locomotion and the Direction of Spatial Updating During Blind-walking Tasks* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *The Influence of Personal Height and Eye Level on the Perception of Object Dimensions and Affordance Judgments* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *The Impact of Social Awareness, Empathy, and Confidence on Blindness to Change in Facial Emotions* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *Effects of Sustained Attention on Auditory Displays, Mental Workload, and Stress* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *Spatial Intelligence and Memory for Location in Athletes and Non-Athletes* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *Using a Mental Rotation Task to Assess the Effect of Biasing Information on Overconfidence and Narcissism* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *Detecting Critical Signals in Sustained Visual Attention Tasks Using Simulated Radar Screens* | **RecPlex, 11:00-12:30**

# STUDENT INDEX

## NAME - TITLE | LOCATION/TIME

- Barnas, Adam (PSY) - *Characteristics of Emotion for Paintings and Classical Music* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *Aesthetic Evaluations and Emotional Responses Evoked by Paintings and Classical Music in Artists, Musicians, and Non-Experts* | **RecPlex, 11:00-12:30**
- Barnas, Adam (PSY) - *Put Your Money Where Your Mouth is: Feedback Reduces Overconfidence When Betting* | **RecPlex, 11:00-12:30**
- Barrett, Matthew David (ACC, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Bartol, Stephanie F (MEE) - *Education in Dayton; A Social Justice Service Club Project* | **RecPlex, 9:00-10:30**
- Bartosic, Abigail A (BCM) - *Solution Structures of Amphiphiles* | **RecPlex, 9:00-10:30**
- Batzer, Kelcey Elizabeth (CJS, HRS) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Beach, Renee Lynn (UEG, MEE) - *Effect of Compliant Flooring on Postural Stability in an Older Adult Population* | **RecPlex, 11:00-12:30**
- Beck, Trevor E (ACC) - *Environmental Rights, Justice, and the Law: Clean Water Ltd in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Becker, Carla J (EES, REL) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Bendel, Christopher P (UBU) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Bentley, Vicki Lynn (CMM, MUS, ELE) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Berger, Brian L (CME) - *Development of a Sublimation-Inhibitive Coating for TAGS-85 Thermoelectric Material* | **RecPlex, 11:00-12:30**
- Berger, Megan E (CMM) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Berkenmeier, Gretchen A. (RCL) - *Senior Capstone Project to develop a curriculum for an American Company in China that deals with controls for Industrial Automation.* | **Kennedy Union 310, 3:30-4:30**
- Birdsall, Daniel T (ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Best, Anne Jacqueline (EPT) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Bidwell, Sarah L. (CLP) - *Observed Hazard Interactions by Preschool Children and Their Sibling Supervisors* | **RecPlex, 11:00-12:30**
- Billing, Trey T (ECO) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Billingsley, Precious L. (CJS) - *Breaking the Barriers: How does crime effect the trajectory of first generation college students?* | **St. Joseph's Hall 013, 11:00-12:00**
- Birdsall, Alysa (INS, FRN) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Birdsall, Alysa (INS, FRN) - *Environmental Rights, Justice, and the Law: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Blake, Jordan L (POL) - *Supply Chain Investigation of Products Manufactured by Slave Labor* | **RecPlex, 9:00-10:30**
- Blanco-Lozano, Darlin (VAR) - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 2:00-3:00**
- Blanco-Lozano, Darlin (VAR) - *Photogeologic Altars* | **Marianist Hall Learning Space Commons, 3:00-4:00**
- Blumberg, Grace F (SOC) - *The Role of Non-State Actors in Congo* | **Kennedy Union 310, 1:00-2:00**
- Blumberg, Grace F (SOC) - *Young Love: Healthy Romantic Relationships among University Students* | **St. Joseph's Hall 023, 2:00-3:00**
- Blystone, Allissa M (BIO) - *Temporal Analysis of Behavior of Male and Female Lucilia sericata Blow Flies Using Videography* | **RecPlex, 11:00-12:30**
- Blystone, Allissa M (BIO) - *A Comparison of Common Diets for the Laboratory Culture of the Green Bottle Fly, Lucilia sericata* | **RecPlex, 11:00-12:30**
- Blystone, Allissa M (BIO) - *Ovary Staging Analysis of the Female Adult Blow Fly, Lucilia sericata* | **RecPlex, 11:00-12:30**
- Blystone, Allissa M (BIO) - *The Influence of Age, Sex, and Diet on Gustatory Behavioral Response in the Blow Fly, Lucilia sericata* | **Kennedy Union 222, 3:00-3:20**
- Bojarski, Alysa C (EYA) - *Research on Student Achievement in p-12 Schools* | **RecPlex, 9:00-10:30**
- Bolt, Shanieka (POL, CJS) - *Human Trafficking: Where and How to buy fair trade products in Ohio.* | **RecPlex, 9:00-10:30**
- Boone, Katherine M (MTE) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Boopathy, Komahan (AEE) - *Surrogate models and their applications in aerospace engineering* | **Kennedy Union 207, 3:20-3:40**
- Borek, Paige Nicole (MED) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Bowman, Olivia S (HOA) - *A Retrospective of Dayton Artist Zachary Armstrong* | **Marianist Hall Learning Space Commons, 3:00-4:00**
- Boyd, Kaitlin E (PSY, ERL) - *Reconciling Autonomy and Self-Enhancement: Is Consistency the Key to Well-Being?* | **RecPlex, 11:00-12:30**
- Boyd, Kaitlin E (PSY, ERL) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Brackmann, Andrew F (ACC, FIN) - *An Overview of the Flyer Fund Security Selection Process* | **Miriam Hall 118 - Davis Center, 2:20-3:20**
- Bradford, Brenner R (POL) - *Searching for Meaning in Violence: A Study of Southern Thailand* | **St. Joseph's Hall 231, 3:20-3:40**
- Bradford, Robyn L (MAT) - *UD Business Plan Competition: Insights from the Finalists* | **Miriam Hall 109, 11:00-12:00**
- Bradley, Elizabeth A (SPN, ENG) - *Spaceships and Maths' Wings* | **Kennedy Union 311, 3:20-3:40**
- Brady, Erin A (PSY, CJS, MUT) - *Is Chivalry Really Dead? It Depends on When You Ask: Women's Reception of Benevolent Sexism Changes Across the Menstrual Cycle* | **RecPlex, 11:00-12:30**
- Braig, Cameron M (ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Brancaletti, Angela R (MKT, ECB) - *Evaluating the Performance of Ohio Schools: A Nonparametric Analysis* | **RecPlex, 9:00-10:30**
- Brandel, Benjamin R (HST, EYA) - *Research on Standardized Tests in p-12 Schools* | **RecPlex, 9:00-10:30**
- Breitbarth, Stacey N (MIS) - *Premier Health Partners Operating Room Dashboard* | **Miriam Hall 207, 2:20-2:50**
- Brennan, Shae M (ECB, OPS) - *Estimating Productivity of Australian Schools Using a Public Sector Malmquist Measure* | **RecPlex, 11:00-12:30**
- Brennan, Shae M (ECB, OPS) - *Evaluating the Performance of Ohio Schools: A Nonparametric Analysis* | **RecPlex, 9:00-10:30**
- Breslin, Shannon E (CMM) - *A couple 20's for the night: an Analysis of "Renting Lacy"* | **RecPlex, 9:00-10:30**
- Brewer, James A (GMT) - *Ingrid Photovoltaic Solar Panel System* | **RecPlex, 9:00-10:30**
- Brewer, James A (GMT) - *Social Justice Service Learning Organization 2012-2013 Service Projects* | **RecPlex, 9:00-10:30**
- Bright, Emily E (POL) - *Megachurch-Based Regionalism: Exploring the Practices of Urban-Suburban Partnerships, Regional Branch Campuses, and Regional Church Plants* | **St. Joseph's Hall 221, 4:00-4:20**
- Brod, Anna K (INS) - *Paying After Freedom: The Post-Revolutionary Issues of Former Socialist States* | **St. Joseph's Hall 221, 4:40-5:00**
- Brodner, Chloe E (PSY) - *Social Justice Club Poster Presentation on Homelessness* | **RecPlex, 9:00-10:30**
- Brown, Joshua R (THE) - *The American Reception of Hans Urs von Balthasar from 1979-2004* | **Kennedy Union 222, 1:20-1:40**
- Brown, Megan L (EMS) - *Research on Standardized Tests in p-12 Schools* | **RecPlex, 9:00-10:30**
- Browning, Molly T (EYA) - *Investigation of the Geological World Through Natural Disasters* | **RecPlex, 9:00-10:30**
- Bruce, Erica (EAH) - *Make It or Break It, You've Only Got Six Weeks: The Effectiveness of a College Readiness Program at For-Profit Colleges* | **LTC Forum, 4:30-6:30**
- Bruner, Jason W (OPS, MKT) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Bucaro, Joseph M (ECO) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Buck, Christopher Andrew (NON, MEE) - *Evaluation of Multiaxial Fatigue Models for Ti-6Al-4V* | **RecPlex, 11:00-12:30**
- Buck, Daniel J (CEE) - *Infant Cause and Effect Toy for Bombeck Family Learning Center* | **RecPlex, 9:00-10:30**
- Buckley, Erin K (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Buerkle, Daniel N (ECO, PSC) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Buerkle, Daniel N (ECO, PSC) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Burke, Hanna M (CLP) - *Parental Support and Anxiety among College Students: Differences by Sex-Specific Dyads* | **RecPlex, 11:00-12:30**
- Burke, Kaitlyn Nicole (EYA, MTH) - *Research on the Relationship between Policy and Practice in p-12 Schools* | **RecPlex, 9:00-10:30**
- Burke, Kathleen V. (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**

## NAME - TITLE | LOCATION/TIME

- Burke, Patrick E (INS, ECO) - *The Business of Sex Trafficking in Thailand* | **St. Joseph's Hall 231, 2:20-2:40**
- Burkhardt, Ann T (ECP) - *Warm-Ups to Business Suits: Identity development of female student-athletes at the University of Dayton* | **LTC Forum, 4:30-6:30**
- Buse, Matthew J. (FIN, ECB) - *An Overview of the Flyer Fund Security Selection Process* | **Miriam Hall 118 - Davis Center, 2:20-3:20**
- Bush, Joshua Gregory (UNA) - *What is the Annual US Trafficking in Persons Report?* | **RecPlex, 9:00-10:30**
- Bushroe, Kylie M (PSY, MED) - *Integrating Heart Rate and Eye Movement Measures as a Possible Robust Indicator of Workload in an Aviation Simulation Task* | **RecPlex, 11:00-12:30**
- Burton, Britanny N (SPN, PSY) - *Educating for a Global Community: UD's African Immersion Experience Program* | **Kennedy Union 331, 3:00-4:30**
- Butt, Erik J (MTE) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Butzke, Margaret E (VCD) - *Environmental Rights, Law and Justice: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Cahall, Kristine A (CMM) - *Educating Middle and High School Students in the Miami Valley about Human Trafficking* | **St. Joseph's Hall 231, 2:40-3:00**
- Cain, Rachel Maria (ENG) - *Research on the Relationship between Policy and Practice in p-12 Schools* | **RecPlex, 9:00-10:30**
- Caldwell, Lydia K - *Mechanical Effectiveness of a Combined Gait Modification Strategy to Reduce Knee Adduction Moment: Increasing Trunk Lean and Foot Progression Angle* | **Kennedy Union 312, 1:00-1:20**
- Callahan, Grace M (MTH, EYA) - *Efficiency, Adequacy, and Equity in Educational Funding* | **Kennedy Union 311, 1:00-1:20**
- Callihan, Lindsey M (CME) - *Social Justice Club Poster Presentation on Homelessness* | **RecPlex, 9:00-10:30**
- Calteaux, Alexandra E (BIO) - *A Year-Long Study of Carrion, Insects, and Scavengers* | **RecPlex, 11:00-12:30**
- Camino, Eric M. (BIO) - *Red Light, Green Light: A Novel Approach to Study Interactions between Enhancers and Gene Promoters* | **RecPlex, 11:00-12:30**
- Camino, Eric M. (BIO) - *A Characterization of Regulatory Linkages in a Genetic Network for a Derived Fruit Fly Trait* | **RecPlex, 11:00-12:30**
- Capka, Carolyn R (BCM) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Capodice, Jack (MIS) - *Intelligence Resume Management System* | **Miriam Hall 207, 4:10-4:40**
- Carabin, Katerina C (VCD) - *Branding: Designing for the Consumer's Perception* | **ArtStreet Studio C, 2:00-2:40**
- Caraher, Elizabeth M (ECE) - *Advocating for Vulnerable Children* | **RecPlex, 9:00-10:30**
- Garden, Craig A (OPS) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Carroll, Timothy G (ENG, EYA) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Cashion, Kelly (ELE) - *Brain Machine Interface Using Electroencephalograph Data as Control Signals for a Robotic Arm* | **RecPlex, 11:00-12:30**
- Cashion, Kelly (ELE) - *EEG Action Encoding* | **RecPlex, 11:00-12:30**
- Cerrone, Michael D (MUP) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Chai, Kar Yen (NON, FIN, PSY) - *The Effect of Graphic Quality in Virtual Environments on the Perception of Egocentric and Exocentric Distances* | **RecPlex, 11:00-12:30**
- Chen, Hongwei (EOP) - *Beam steering by KTN crystal(Potassium tantalate niobate)* | **RecPlex, 11:00-12:30**
- Chen, Wenzhe (FIM) - *beta and alpha using excel to measure portfolio risk and performance* | **Miriam Hall 214, 3:40-4:10**
- Cheng, Wu (ELE) - *Towards A "Self-Tuning" Camera* | **Kennedy Union 311, 2:20-3:00**
- Chettyyar, Thanigasalam (ELE) - *Non-linear regulation of power quality within a microgrid consisting of multiple distributed generators (solar, wind, etc.)* | **RecPlex, 11:00-12:30**
- Chkautovich, Matthew (ACC, FIN) - *Using Normalized P/E Ratios to Project Future Stock Price Movement* | **RecPlex, 9:00-10:30**
- Chokan, Evan R. (CEE) - *Emerson Climate Technologies Patent Improvement Project* | **RecPlex, 9:00-10:30**
- Churik, Jenn I (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Cipriani, Gabriella (HRS) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Cirilio, Christine D (PSY) - *Exposing Nike: Team Sweat* | **RecPlex, 9:00-10:30**
- Clancy, Donald D (PSY) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Clancy, Robert J (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Clark, Charles M. (EAH) - *Students as Employees & Participants: The Developmental Effects of Intramural Sports* | **LTC Forum, 4:30-6:30**
- Clark, Lauren M (ECE) - *After the Abuse* | **RecPlex, 9:00-10:30**
- Clarke, Kadeem A (CME) - *Denaturation Sorption to Clay Minerals in Clay/Sand Mixtures: Should We Be Worried About This Compound?* | **RecPlex, 9:00-10:30**
- Clarke, Sean F (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Cleary, Olivia M (SOC, CS) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Cleary, Olivia M (SOC, CS) - *The History and Implications of Child Sexual Abuse in the United States* | **LTC Team Space, 3:00-3:40**
- Cleveland, Daniel J (SPN, CMM) - *Assessing Appellate Courts' Definitions of Elements in Libel Law* | **RecPlex, 9:00-10:30**
- Clifford, Caitlin (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Coakley, Kelly L (FIN, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Colarik, Cassidy E (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Colborn, Veronica Lynn (EYA, ENG) - *Research on Roles and Practices that Engage Multiple Stakeholders in p-12 Schools* | **RecPlex, 9:00-10:30**
- Cole, Christopher R (MEE) - *Using Relative Valuation and Earnings Momentum to Measure the Returns to Stocks within Industry Groups* | **RecPlex, 9:00-10:30**
- Coleman, Maura A (EIS) - *Sibling Rivalry or Sibling Abuse?* | **ArtStreet Studio C, 3:00-3:40**
- Collins, John R. (MIS) - *Intelligence Resume Management System* | **Miriam Hall 207, 4:10-4:40**
- Collins, Sean M (EPT) - *The History of Physical Education-Action and Sport: Stories for the Ages and Lessons from the Legends of Memorable Moments, Events, Trends, Tales, Phenomena, and Famous Women and Men: Their Teams and Times - Semester VII* | **RecPlex, 9:00-10:30**
- Colon, Garielis (MCT) - *Facade Improvement Program - City of Dayton* | **RecPlex, 9:00-10:30**
- Comes, Ellen L (EVBB) - *Using the SLOSH model to predict flood hazard areas along the New Jersey coast: both present and future risks as sea levels rise* | **RecPlex, 11:00-12:30**
- Comes, Ellen L (EVBB) - *Qualitative Assessment of the Past and Present Geomorphological Processes Affecting Silver Lake in Miami County, Ohio* | **RecPlex, 11:00-12:30**
- Comes, Ellen L (EVBB) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Connolly, Charles G (FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Connor, Mark A. (CPE, ELE) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Connor, Michelle (MUP, MTH) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Cook, Hillary A (CMM, POL) - *Social Justice Club Poster Presentation on Homelessness* | **RecPlex, 9:00-10:30**
- Cook, Mary M (BIO) - *Education in Dayton; A Social Justice Service Club Project* | **RecPlex, 9:00-10:30**
- Coon, James B (MED) - *Environmental Rights, Justice, and the Law: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Corrigan, Margaret Q (EIS) - *After the Abuse* | **RecPlex, 9:00-10:30**
- Corvino, Justin J (POL) - *Interest Groups, Money and Influence* | **LTC Studio, 2:30-3:30**
- Cotten, Laura (UED) - *Understanding Veteran Needs for Academic Success* | **LTC Team Space, 4:30-6:30**
- Coughlin, Alexa M (EVG) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Cox, Dennis M (THE) - *Art as Sacrament: Rowan Williams's Theology of Art* | **Kennedy Union 222, 2:40-3:00**
- Cox, Frederick L. (SOC) - *Their Stories Are Real: A Qualitative Study of the Relationship of Black College Students and Campus Police* | **St. Joseph's Hall 023, 2:00-3:00**
- Cox, Frederick L. (SOC) - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**

# STUDENT INDEX

## NAME - TITLE | LOCATION/TIME

- Coy, Sydney M (HST) - *Social Class and Daily Life* | **Humanities 122, 3:00-4:00**
- Craport, Tyler J (CJS) - *After the Abuse* | **RecPlex, 9:00-10:30**
- Cree, Kristin Rose (MED) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Cremons, Molly K (BIO) - *A Characterization of Regulatory Linkages in a Genetic Network for a Derived Fruit Fly Trait* | **RecPlex, 11:00-12:30**
- Crim, Whitney M (CJS) - *Preemptory Challenges: The History and its Effect on Legal Professionals in Montgomery County, Ohio* | **RecPlex, 11:00-12:30**
- Crowley, Meaghan G (FAE) - *La Fin: Senior Portfolio Presentations* | **ArtStreet Studio B, 1:00-2:00**
- Cui, Chen (ELE) - *Pose Invariant Face Recognition and Tracking for Human Identification* | **RecPlex, 11:00-12:30**
- Cunningham, Bryan A (MTE, PSY) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Currie, Thomas R (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Cutler, Timothy Lawrence (MED) - *Study of the role of Cullin-4 function during organogenesis in the Drosophila melanogaster eye* | **Kennedy Union 211, 1:20-1:40**
- Dahlhauser, Ryan M. (BIO) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Dailey, Megan K (PSY) - *Put Your Money Where Your Mouth is: Feedback Reduces Overconfidence When Betting* | **RecPlex, 11:00-12:30**
- Dallagana, Emma R (INB, OPS, SPN) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Dashewich, Daniel L (INS, POL) - *The Role of Non-State Actors in Congo* | **Kennedy Union 310, 1:00-2:00**
- Dashewich, Daniel L (INS, POL) - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 2:00-3:00**
- Dashewich, Daniel L (INS, POL) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- DeBellis, Jacob M (MED, PSY) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Decrane, Miles J (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Dee, Colin W (MEE) - *Social Justice Club Poster Presentation on Homelessness in Montgomery County* | **RecPlex, 9:00-10:30**
- Deeter, Jonathon Michael (GEO) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Deleon, Jordan D (MIS) - *Premier Health Partners Operating Room Dashboard* | **Miriam Hall 207, 2:20-2:50**
- Deluca, Haylee (PSY) - *Graduate Community Fellowship at Daybreak* | **RecPlex, 11:00-12:30**
- Deluca, Samuel J (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Demichele, Kristina L (ENG, SPN) - *The State of Digital Production within International Educational Publishing: Obstacles, Innovations, and Possible Solutions* | **RecPlex, 11:00-12:30**
- Depaola, Alyssa M (EYA, MEE) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Depeder, Joseph S (ACC) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Destefanis, Julie E (INB, ACC) - *Becoming a World Citizen through Studying Abroad* | **Miriam Hall 119 - O'Leary Auditorium, 1:00-2:00**
- Dettefanti, Danielle L (MKT, ENT) - *UD Business Plan Competition: Insights from the Finalists* | **Miriam Hall 109, 11:00-12:00**
- Devine, Sarah E (CMM, POL) - *Assessing Appellate Courts' Definitions of Elements in Libel Law* | **RecPlex, 9:00-10:30**
- Devlin, Catherine E - *Neural Correlates of Human Trust in Automation* | **RecPlex, 11:00-12:30**
- Dibucci, Anthony (CMM) - *Slavery: How the Chains Remain Attached Today* | **RecPlex, 9:00-10:30**
- Dickey, Irene J - *The Practicer & Gamble Marketing Challenge* | **Miriam Hall 214, 2:20-3:20**
- Dickey, Kara J (BIO) - *The Micro-Ecology of Plant Invasion: Assessing Impacts of the Invasive Exotic Shrub *Lonocera maackii* on the Ecology of Soil Microbial Communities* | **RecPlex, 11:00-12:30**
- Difrancesca, William Murphy (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Digby, Alexandria L (PHO, CMM) - *The Flood in Photos* | **RecPlex, 9:00-10:30**
- Diskin, Yakov (ELE) - *Robust Artificial Intelligence-based Defense Electro Robot (RAIDER)* | **RecPlex, 11:00-12:30**
- Diskin, Yakov (ELE) - *Automatic Scene Rendering for Unmanned Aerial Systems* | **RecPlex, 11:00-12:30**
- Diskin, Yakov (ELE) - *Pose Invariant Face Recognition and Tracking for Human Identification* | **RecPlex, 11:00-12:30**
- Diskin, Yakov (ELE) - *Image Registration, Moving Object Detection and Tracking in Wide Area Motion Imagery* | **RecPlex, 11:00-12:30**
- Diskin, Yakov (ELE) - *Wide Area Surveillance for Security Automation* | **Kennedy Union 207, 2:20-2:40**
- Donnellon, Patrick Samuel (UNA) - *Social Justice Service Learning Organization 2012-2013 Service Projects* | **RecPlex, 9:00-10:30**
- Dorsey, Ashley R (FIN, INB) - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | **Kennedy Union East Ballroom, 2:30-3:30**
- Douglas, Hayley J (FIN, MKT) - *The Role of Safety and Risk in the Returns to Stocks in Volatile Markets* | **RecPlex, 9:00-10:30**
- Douglas, Mariah L (CMM, ENG) - *Libel Law Exceptions for the Press in 2nd & 7th Circuit Courts of Appeals* | **RecPlex, 9:00-10:30**
- Drilling, Kristen N (UED, POL, CJS) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Drilling, Kristen N (UED, POL, CJS) - *The Rise of School Shootings and the Fall of American Morality* | **St. Joseph's Hall 023, 1:00-1:20**
- Droge, Kaylyn E (WGS, PSY) - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**
- Duggan, Colleen A (IET) - *Development of Greenhouse for Disabled Farmers* | **RecPlex, 9:00-10:30**
- Dunyak, Erika M (GER, INS) - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | **Kennedy Union East Ballroom, 2:30-3:30**
- Dunyak, Marissa L (BCM) - *UV-induced photodegradation of beta-carotene in hexane solvent* | **RecPlex, 11:00-12:30**
- Durnwald, Libby M (INS, SPN) - *Examining Literacy Practices Utilized to Support Latino Primary Aged Students that Respect Family and Culture* | **RecPlex, 9:00-10:30**
- Dovsky, Courtney L (BIO) - *The invasive shrub *Amur honeysuckle (Lonocera maackii)* influences nutrient dynamics in headwater streams* | **RecPlex, 11:00-12:30**
- Eads, Galyn L. (CHM, ENG) - *Microcanonical and canonical temperatures in two-level paramagnetic spin lattices* | **RecPlex, 11:00-12:30**
- Eames, Michaela M (PSY, MKT) - *Reconciling Autonomy and Self-Enhancement: Is Consistency the Key to Well-Being?* | **RecPlex, 11:00-12:30**
- Eatherton, Matthew T (CJS) - *The Rise of School Shootings and the Fall of American Morality* | **St. Joseph's Hall 023, 1:00-1:20**
- Eckert, Jason C (EDL) - *Understanding Veteran Needs for Academic Success* | **LTC Team Space, 4:30-6:30**
- Eder, Allison C (CHM) - *Enhanced O<sub>2</sub> Electro-catalysis by a Highly Conjugated Cobalt (II) Porphyrin* | **Kennedy Union 211, 3:40-4:00**
- Edwards, Bakist D. (IET, VAR) - *Digital Education Processed through Arts Integration* | **Marianist Hall Learning Space Commons, 3:00-4:00**
- Edwards, Jessica L (BCM) - *Solution Structures of Amphiphiles* | **RecPlex, 9:00-10:30**
- Edwards, Marika S (ENG, MED) - *Fabrication of Low-Cost Flow Cell and Tapered Optical Fibers for Aqueous Biosensing* | **RecPlex, 11:00-12:30**
- Edwards, Ryan F (POL) - *The Business Side of Human Trafficking* | **RecPlex, 9:00-10:30**
- Edwards, Ryan F (POL) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Egan, Magdalene L (ECE) - *Reducing Technology Use on Campus: An Experiment* | **Marianist Hall Learning Space 218, 2:00-2:20**
- Eidam, Jason M (LDR, FIN) - *Flyer Enterprises: The Experience* | **Miriam Hall 214, 11:00-12:00**
- Ellinghausen, Lauren A (PSY) - *Spatial Intelligence and Memory for Location in Athletes and Non-Athletes* | **RecPlex, 11:00-12:30**
- Ellis, Katharine M (PSY, SPN) - *Reconciling Autonomy and Self-Enhancement: Is Consistency the Key to Well-Being?* | **RecPlex, 11:00-12:30**
- Emmett, Robert M (POL) - *Comparing US Counter-insurgency Actions in the Philippines in 1950s and Vietnam in 1960s: Why did One Succeed and One Fail?* | **RecPlex, 9:00-10:30**
- Erdy, Natalie N (MUE) - *Music Technology in Secondary Music Education: Reaching the 80%* | **RecPlex, 9:00-10:30**
- Esch, Madalyn C (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Escobar, Monica T (NON) - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | **Kennedy Union East Ballroom, 2:30-3:30**

## NAME - TITLE | LOCATION/TIME

- Esposito, Daniel R (MTH, PHY) - *Quantum Dot Formation Using Nano-patterned Planar InAs* | **RecPlex, 11:00-12:30**
- Essien, Nnimmoabasi E. (PSY) - *Effects of Sustained Attention on Auditory Displays, Mental Workload, and Stress* | **RecPlex, 11:00-12:30**
- Essien, Nnimmoabasi E. (PSY) - *Detecting Critical Signals in Sustained Visual Attention Tasks Using Simulated Radar Screens* | **RecPlex, 11:00-12:30**
- Ezenagu, Chigozie C (ECT, CME) - *Ingrid Photovoltaic Solar Panel System* | **RecPlex, 9:00-10:30**
- Faerber, Daniel W (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Faiella, Cassandra (PSY) - *Can Tell by Your Smile: A Study of Alternative Partner Preference Using Facial EMG* | **RecPlex, 11:00-12:30**
- Fasano, Gracie (FIM) - *The Kou Jump-Diffusion Model for Option Pricing* | **RecPlex, 11:00-12:30**
- Fawcett, Katherine (VAR, ECE) - *What YOU can do: Human Trafficking and the impact we as students can have on this issue.* | **RecPlex, 9:00-10:30**
- Fedon, Heather E (POL) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Fenix, Aidan (BIO) - *Genetic Interaction of Discs-large (Dlg) with Hippo Signaling Pathway* | **RecPlex, 11:00-12:30**
- Fenix, Aidan (BIO) - *The regulation of Dronc by Hippo Pathway* | **Kennedy Union 211, 2:00-2:20**
- Fenix, Aidan (BIO) - *Genetic Interaction of runxB with Hippo Signaling Pathway* | **Kennedy Union 211, 2:20-2:40**
- Ferry, Christine A (ACC, FIN) - *A Quantitative Approach to Selecting Industry Groups within Sectors for Investment: The Case for Relative Strength and Capture Ratio Analysis* | **RecPlex, 9:00-10:30**
- Ferry, Laura E (MKT) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Fetter, Gregory D (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Fischer, Kyle S (BUS) - *Social Justice Club Poster Presentation on Homelessness in Montgomery County* | **RecPlex, 9:00-10:30**
- Flamand Mendez, Coral V (ENG, HRS) - *Words and Revolution: Female Political Awakening in Julia Alvarez's "In the Time of the Butterflies"* | **Kennedy Union 311, 3:40-4:00**
- Flamand Mendez, Coral V (ENG, HRS) - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 2:00-3:00**
- Flanagan, Owen T (ECB) - *Research on Standardized Tests in p-12 Schools* | **RecPlex, 9:00-10:30**
- Flanigan, Eric T (ACC, FIN) - *An Overview of the Flyer Fund Security Selection Process* | **Miriam Hall 118 - Davis Center, 2:20-3:20**
- Flora, Giacomo (MEE) - *Characterization of Emissions from the Combustion of a Selected Surrogate for Aviation Fuels* | **RecPlex, 11:00-12:30**
- Fochesato, Kaitlin L (BIO) - *Outfall water quality assessments of the major rivers of Dayton, Ohio* | **RecPlex, 11:00-12:30**
- Fogel, Scott (POL, INS) - *Human Trafficking in the United States* | **RecPlex, 9:00-10:30**
- Fogel, Scott (POL, INS) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Forman, Joshua R (MUS) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Forte, Patrick J (HST) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Foskey, Michael E (POL) - *Doi Moi and Vietnam: Renovation to Continue or Time for a New Blueprint?* | **St. Joseph's Hall 231, 3:40-4:00**
- Foster, Ben E (FIN, ACC) - *MANDATORY AUDITOR ROTATION: A REVIEW AND ANALYSIS OF RESEARCH FROM THE LAST DECADE* | **RecPlex, 11:00-12:30**
- Foster, David H (PHY, EYA) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Fox, Amy E (UED) - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**
- Fox, Gregory S (CMM) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Fox, Madeline K (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Francis, Jordan M (MEE) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Francis, Kaitlyn R (EEP) - *Identifying the DNA Sequence Requirements for a Synergistic Interaction Between Two Cis-Regulatory Elements* | **RecPlex, 11:00-12:30**
- Frank, Savio D (EDU) - *The Characteristics of Marianist Education: Finding Sustainance for Faculty Community* | **LTC Team Space, 4:30-6:30**
- Frankenberg, Sarah J (BIO) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Frey, Lucy M (ECE) - *After the Abuse* | **RecPlex, 9:00-10:30**
- Frost, Kaetha L (MED) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Fry, Hillary (POL) - *Understanding The U.S. Trafficking in Persons (TIP) Report* | **RecPlex, 9:00-10:30**
- Fry, Hillary (POL) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Fry, Nick T (MTH) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Fuggi, Steven F (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Gabel, Breann N. (ART, PSY) - *La Fin: Senior Portfolio Presentations* | **ArtStreet Studio B, 1:00-2:00**
- Gabrielli, Timothy R (THE) - *Missing Body: The Disappearance of Mystical Body of Christ Theology in the Twentieth Century* | **Kennedy Union 222, 1:00-1:20**
- Gahimer, Erin L (SOC, SPN) - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 2:00-3:00**
- Gahimer, Erin L (SOC, SPN) - *Refugees in Dayton: The Job Search & Employment Experience in their New Home* | **St. Joseph's Hall 023, 4:00-5:00**
- Gahimer, Erin L (SOC, SPN) - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**
- Gallagher, Erin E (BEM) - *Investigation of a 70 Amino Acid Insert in the DNA Binding Domain of Deinococcus Radiodurans PriA* | **RecPlex, 11:00-12:30**
- Gallucci, Allison M (PHO) - *Department of Visual Arts, Senior Capstone Projects in Photography* | **ArtStreet Studio B, 2:30-4:30**
- Gammario, Eric M (PSY) - *Spatial Intelligence and Memory for Location in Athletes and Non-Athletes* | **RecPlex, 11:00-12:30**
- Garcia, Kathleen Rose (CMM) - *Social Justice Club - Miracle Makers* | **RecPlex, 9:00-10:30**
- Gardner, Emily A (MKT) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Garrison, Megan M (CMM, AMS) - *Journalists' Rights under State Shield Laws* | **RecPlex, 9:00-10:30**
- Gaskell, Sarah M (EEP, POL) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Gasper, MacKenzie E (EIS) - *Sibling Rivalry or Sibling Abuse?* | **ArtStreet Studio C, 3:00-3:40**
- Gatlin, Emily D (MUE) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Geiger, Catherine J (EIS) - *What YOU can do: Human Trafficking and the impact we as students can have on this issue.* | **RecPlex, 9:00-10:30**
- Geisman, Taylor E (BIO, BCM) - *Tis7 Regulation of Intestinal Nutrient Absorption and Adaptation in Short Bowel Syndrome* | **RecPlex, 11:00-12:30**
- Geiss, Audrey R (EVB) - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | **Kennedy Union East Ballroom, 2:30-3:30**
- George, Elizabeth A (EYA, HST) - *Social Class and Daily Life* | **Humanities 122, 3:00-4:00**
- Gerard, Jennifer L (UED) - *"Building and Supporting Faculty & Student-Athlete Relationships"* | **LTC Team Space, 4:30-6:30**
- Gerbich, Mary Meg M (OPS, ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Gerstle, Jenna E (ECE) - *Social Justice Club - Miracle Makers* | **RecPlex, 9:00-10:30**
- Gerwin, Eric A (MAS) - *Simulation of Nonlinear Waves Using Sinc Collocation-Interpolation* | **RecPlex, 11:00-12:30**
- Ghilani, Alexander (MCT) - *Facade Improvement Program - City of Dayton* | **RecPlex, 9:00-10:30**
- Gibson, Lane R (CMM) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Gilligan, Clare E (ECE) - *Child Abuse and the Internet* | **RecPlex, 9:00-10:30**
- Gilloon, Mark J. (CPS, CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Ginikos, Sam C (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Girouard, Samuel B (FIN, MKT) - *An Overview of the Flyer Fund Security Selection Process* | **Miriam Hall 118 - Davis Center, 2:20-3:20**

# STUDENT INDEX

## NAME - TITLE | LOCATION/TIME

- Gladioux, Marissa P (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Glass, Lauren K (CMM) - *Libel Law Exceptions for the Press in 2nd & 7th Circuit Courts of Appeals* | **RecPlex, 9:00-10:30**
- Glenn, Samuel J (ENG) - *And It Rained All Night: Writing About the Great Dayton Flood of 1913* | **ArtStreet Studio C, 1:00-1:20**
- Gnanasekar, Vignesh Kumar (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Godshall, Emily A (PSY, NON) - *Momma Knows Best: Consideration of Child Temperament in Parent Prediction of Injury Risk* | **RecPlex, 11:00-12:30**
- Gottemoeller, Michael K (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Gottemoeller, Nicole L (BIO) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Garbett, Samantha Marie (CMM) - *What Isn't Considered in the Dressing Room: Human Rights Violations Behind the Clothing Industry* | **RecPlex, 9:00-10:30**
- Grandi, Elizabeth Eiga (INB) - *Social Justice Club - Miracle Makers* | **RecPlex, 9:00-10:30**
- Grandinette, Dillon T (BIO, ENG) - *Fabrication of Low-Cost Flow Cell and Tapered Optical Fibers for Aqueous Biosensing* | **RecPlex, 11:00-12:30**
- Gratacos Alfageme, Teresa (NON) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Grau, Justin A (MIS) - *Speedway Pay Period Verification System* | **Miriam Hall 207, 2:50-3:20**
- Green, Ashleigh O. (MKT) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Gregory, Justin P (FIN, ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Gross, Brett (MCT) - *Development of Greenhouse for Disabled Farmers* | **RecPlex, 9:00-10:30**
- Gross, Carly A (CPE) - *Brain Machine Interface Using Electroencephalograph Data as Control Signals for a Robotic Arm* | **RecPlex, 11:00-12:30**
- Gross, Carly A (CPE) - *EEG Action Encoding* | **RecPlex, 11:00-12:30**
- Grover, Sumant (BIO) - *Defining the transcription factor genes and their target gene interactions for a model developmental and evolutionary trait* | **RecPlex, 11:00-12:30**
- Gu, Weijie (OPS, INB) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Gu, Zhenghang (ELE) - *Innovative Design and Entrepreneurship Team Project conducted at UDCI in China* | **Kennedy Union 310, 3:30-4:30**
- Guarino, Sarah R (PHO) - *Department of Visual Arts, Senior Capstone Projects in Photography* | **ArtStreet Studio B, 2:30-4:30**
- Gueltzow, Ross P (FIN, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Hahn, Sabine (FAE) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Hahn, Sabine (FAE) - *La Fin: Senior Portfolio Presentations* | **ArtStreet Studio B, 1:00-2:00**
- Hale, Morgan A (PSY) - *Reconciling Autonomy and Self-Enhancement: Is Consistency the Key to Well-Being?* | **RecPlex, 11:00-12:30**
- Hale, Morgan A (PSY) - *Social Justice Club Poster Presentation on Homelessness* | **RecPlex, 9:00-10:30**
- Hallinan, Colleen M (EPT) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Hallman, J Ross (ENT, FIN) - *An Overview of the Top-Down Investment Process for the Flyer Fund* | **Miriam Hall 118 - Davis Center, 3:40-4:40**
- Halloran, Michael J (MTE) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Hamilton, Sara B (EPT, UEG) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Hamlin, Erin B (EIS) - *After the Abuse* | **RecPlex, 9:00-10:30**
- Hammaker, Kristen N. (EDC) - *Servant Leadership In Action: Connecting with Community as a Graduate Community Fellow* | **RecPlex, 11:00-12:30**
- Han, Lu (CME) - *Adsorption Behavior of Polyphenolic Proteins onto High Strength Steel (HY80) and 5083 Aluminum Alloys* | **RecPlex, 11:00-12:30**
- Han, Wei (EOP) - *Optical System for Arbitrarily Complex Optical Vector Field Generation* | **Kennedy Union 222, 3:20-3:40**
- Hangana, Joseph A (NON, HST) - *Interest Groups, Money and Influence* | **LTC Studio, 2:30-3:30**
- Hanlon, Kelly A (ACC) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Harawa, Solani T. (POL, EYA) - *What Could (Should?) of Been in Cambodia* | **St. Joseph's Hall 231, 3:00-3:20**
- Harless, James (INS, REL) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Harlow, Carlyn R (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Hart, Ellen J (PSY) - *The Effect of Context Upon the Perception of Egocentric and Exocentric Distances Using a Walkable Human Muller-Lyer Illusion* | **RecPlex, 11:00-12:30**
- Hart, Ellen J (PSY) - *Decoupling the Biomechanics of Locomotion and the Direction of Spatial Updating During Blind-walking Tasks* | **RecPlex, 11:00-12:30**
- Hartshorn, Jarrod C (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Hassan, Adan H (POL) - *Megachurch-Based Regionalism: Exploring the Practices of Urban-Suburban Partnerships, Regional Branch Campuses, and Regional Church Plants* | **St. Joseph's Hall 221, 4:00-4:20**
- Hatstrup, Samuel J (POL) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Hauge, Nathan P (ECB, FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Hawk, Mark A (BIO) - *Analyzing Osmotically-Induced Cell Shape Changes in Erythrocytes from the Freeze Tolerant Anuran *Cope's Gray Tree Frog, Hyla chrysoscelis** | **RecPlex, 11:00-12:30**
- Hawk, Mark A (BIO) - *A Comparison of Common Diets for the Laboratory Culture of the Green Bottle Fly, *Lucilia sericata** | **RecPlex, 11:00-12:30**
- Hawk, Mark A (BIO) - *Educating for a Global Community: UD's African Immersion Experience Program* | **Kennedy Union 331, 3:00-4:30**
- Hayes, Kameron T (CME) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Hayes, Patrick T (MTE) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Haynes, Nicholas D. (MAS) - *Numerical solution of the KdV equation with periodic boundary conditions using the sinc-collocation method* | **RecPlex, 11:00-12:30**
- Hayshlet, Adam N (EYA) - *Minimalism: The Music and Influence of Steve Reich on Percussion Music, Composition, and Performance* | **Sears Recital Hall, 3:30-4:30**
- Heitbrink, Allan J. (CEE, UEG) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Henger, Nichole K (EVB) - *A Year-Long Study of Carrion, Insects, and Scavengers* | **RecPlex, 11:00-12:30**
- Henger, Nichole K (EVB) - *Succession and Female Gravid Status of *Chrysomya ruffifacies* and *Cochliomyia macellaria* on Carrion* | **RecPlex, 11:00-12:30**
- Henger, Nichole K (EVB) - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | **Kennedy Union East Ballroom, 2:30-3:30**
- Hennessey, Lauren E (ACC) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Hentschel, Jason A (THE) - *The "Authorized" Version and the Problem of Authority* | **Humanities 118, 3:00-3:20**
- Hentz, Andrew D (CPS) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Hermes, Michael L (CPS, FIN, ENT) - *An empirical analysis of growth and value portfolio performance in the highly volatile market period 2008-2012; a study in portfolio management* | **RecPlex, 9:00-10:30**
- Heron, Jason A (THE) - *Binding All Things Together: Charity and the Perfection of the Christian Life* | **Kennedy Union 312, 3:20-3:40**
- Heschel, Brianna L (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Hess, Tanner G (GEO) - *An International and Interdisciplinary Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Heuer, Timothy B (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Heynig, Beatrix B (POL, HRS) - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 2:00-3:00**
- Heynig, Beatrix B (POL, HRS) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Hicks, Anastasia F (POL) - *Human Trafficking Awareness: United States* | **St. Joseph's Hall 231, 1:00-1:40**
- Higgins, Jonathan A (MUT) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Higgins, Molly C. (ART, HST) - *Changing Cultural Frameworks* | **Humanities 122, 2:00-3:00**
- Hill, Alexandra N (ECE) - *Preparing Pre-Service Teachers to work with English Language Learners* | **RecPlex, 11:00-12:30**

## NAME - TITLE | LOCATION/TIME

- Hill, Paris S (CJS) - *An Exploration of the Understanding of Rap and Hip-Hop Among University of Dayton Students* | **St. Joseph's Hall 013, 10:00-11:00**
- Hines, Alexa Lee (VCD) - *Reducing Technology Use on Campus: An Experiment* | **Marianist Hall Learning Space 218, 2:00-2:20**
- Hinkle, Maggie A (HRS) - *Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Hobbs, Jacob A (SOC) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Hoedulik, Jen A (ENG, SOC) - *Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Hoeller, Emily F (ENG, EYA) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Hogan, Shannon M (ECE) - *Research on Instruction in p-12 Schools* | **RecPlex, 9:00-10:30**
- Holdmeyer, Sean O (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Holt, Nia J (POL, PSY) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Horan, Joseph William (POL) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Horne, James D (ECB) - *Evaluating the Performance of Ohio Schools: A Nonparametric Analysis* | **RecPlex, 9:00-10:30**
- Hortsman, Samantha L (EAS) - *Investigation of the Geological World Through Natural Disasters* | **RecPlex, 9:00-10:30**
- Hoskinson, Byron W (PHL, ENG) - *Evolutionary Explorations of Ethics: An Interdisciplinary Account of the Development of Human Morality* | **Kennedy Union 312, 2:20-2:40**
- Hubbert, Neil (CJS) - *The Price for their Protection and Service: Domestic Violence in Police Families* | **St. Joseph's Hall 013, 4:00-5:00**
- Hudson, Natalie F - *Peacemakers: Women of Liberia* | **Kennedy Union Torch Lounge, 1:00-4:00**
- Hull, Patrick W (ACC) - *Developing a Valuation Based Portfolio of Dow Jones Stocks* | **RecPlex, 9:00-10:30**
- Hulthen, Kyle M (GMT) - *Facade Improvement Program - City of Dayton* | **RecPlex, 9:00-10:30**
- Hunn, Ryan D (ACC, FIN) - *Social Justice Club Poster Presentation on Homelessness in Montgomery County* | **RecPlex, 9:00-10:30**
- Hunt, Kate E (MUP) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Hurlburt, Daniel A (PSY) - *Do Measures of Ocular Gaze Correlate with Subjective Ratings in Assessing Aesthetic Preferences for Faces?* | **RecPlex, 11:00-12:30**
- Idehenre, Ighodolu I (EOP) - *Tapered Optical Fibers for Aqueous and Gaseous Phase Biosensing Applications* | **Kennedy Union 222, 4:00-4:20**
- Imai, Gabrielle M (PSY, CMM) - *Human Trafficking Awareness: United States* | **St. Joseph's Hall 231, 1:00-1:40**
- Indriolo, Christina A (PSY, SPN) - *Is Chivalry Really Dead? It Depends on When You Ask: Women's Reception of Benevolent Sexism Changes Across the Menstrual Cycle* | **RecPlex, 11:00-12:30**
- Interlichia, Philip C (INS) - *Modern Day Slavery: A Contrast Between Historical Thoughts of Slavery and the Modern Reality* | **RecPlex, 9:00-10:30**
- Irwin, Emily D (UNS) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Irwin, Madison Nichole (PSY, BIO) - *Hippo Signaling Pathway and JNK Signaling Pathway in Amyloid-Beta 42 (A42) Mediated Cell Death* | **Kennedy Union 211, 1:40-2:00**
- Iskander, Jeannette M (CLP) - *Parental Support and Anxiety among College Students: Differences by Sex-Specific Dyads* | **RecPlex, 11:00-12:30**
- Iskander, Jeannette M (CLP) - *Delinquent Peer Relationships as a Mediator of the Differential Effects of Social Withdrawal and Behavioral Inhibition on Delinquency* | **RecPlex, 11:00-12:30**
- Juliano, Julie A (ECE) - *The Themes of Catholic Social Teaching integrated into the work of UD's Center for Catholic Education's (CCE) Urban Child Development Resource Center (UCDRC)* | **RecPlex, 11:00-12:30**
- Ivester, Clifford J (BIO) - *Exploring Gene Expression Differences between Dorsal and Ventral Early Lens Regeneration* | **Kennedy Union 312, 1:40-2:00**
- Jackovity, Kevin S. (ELE) - *Image Registration, Moving Object Detection and Tracking in Wide Area Motion Imagery* | **RecPlex, 11:00-12:30**
- Jackson, Charlie Andrew (EVB) - *An Organic Approach to Defending Trees Against an Insect Menace: A Service-Learning Search for Solutions to the Emerald Ash Borer* | **RecPlex, 11:00-12:30**
- Jackson, Charlie Andrew (EVB) - *Qualitative Assessment of the Past and Present Geomorphological Processes Affecting Silver Lake in Miami County, Ohio* | **RecPlex, 11:00-12:30**
- Jacob, Alexandra E (BIO) - *A Comparison of Common Diets for the Laboratory Culture of the Green Bottle Fly, *Lucilia sericata** | **RecPlex, 11:00-12:30**
- Jacobsen, Cara D (MEE, PSY) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- James, Jessica L (PSY) - *The Role of Visual and Proprioceptive Limb Information in Affordance Judgments and Action Capabilities* | **RecPlex, 11:00-12:30**
- Janosko, Laura A (PSY) - *Visual Cues used for Relative Distance Judgements in 2D Displays* | **RecPlex, 11:00-12:30**
- Janosko, Laura A (PSY) - *Spatial Intelligence and Memory for Location in Athletes and Non-Athletes* | **RecPlex, 11:00-12:30**
- Jenkins, Sarah Marie (ECL) - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | **Kennedy Union East Ballroom, 2:30-3:30**
- Jennevine, Justin J (FIN, ECB) - *Poverty Alleviation in Malawi: An Investigation into the Challenges Faced by Microfinance Institutions* | **Miriam Hall 214, 4:10-4:40**
- Jensen, Eric M (MIS, INB) - *Premier Health Partners Operating Room Dashboard* | **Miriam Hall 207, 2:20-2:50**
- Jiang, Hui (ECT) - *Development of Greenhouse for Disabled Farmers* | **RecPlex, 9:00-10:30**
- Jira, Stephen J (ACC, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Jirles, Emily C (INS) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Jones, Charles Christopher (ECP) - *Student Perceptions of Service Club Success* | **LTC Forum, 4:30-6:30**
- Jones, Michael A (BCM) - *Identification of a compound that disrupts the primosome function in Neisseria gonorrhoeae DNA replication restart* | **RecPlex, 9:00-10:30**
- Jones, Robert A (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Jordan, Jasmine R (INS, POL) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Joubert, Michael J (POL) - *Is Buddha Writing the Prescriptions in South East Asia?* | **St. Joseph's Hall 231, 4:40-5:00**
- Joyce, Dillon P (UBU) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Joyce, Patrick M (UEG, MEE) - *The Development of a Spring Powered Starter for a Motorcycle* | **RecPlex, 11:00-12:30**
- Julien, Patrick C (CEE, UEG) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Juozitis, Brian T (HST, EYA) - *Social Class and Daily Life* | **Humanities 122, 3:00-4:00**
- Jurgens, Nicholas F (ENT) - *Improving reading Skills in Third Graders at Kiser Elementary* | **Marianist Hall Learning Space 218, 2:40-3:00**
- Kaczkowski, Victor H (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Kahwaji, Matthew S (MED) - *Improving reading Skills in Third Graders at Kiser Elementary* | **Marianist Hall Learning Space 218, 2:40-3:00**
- Kapickak, Rachel F (VCD) - *Social Justice Club Poster Presentation on Homelessness* | **RecPlex, 9:00-10:30**
- Kapinus, Lindsay R (ACC) - *Social Justice Club Poster Presentation on Homelessness* | **RecPlex, 9:00-10:30**
- Kapolnek, Greg J (UEG, CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Kasper, Benjamin R - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Kavanagh, Kayleigh R (CMM) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Keckler, Amy M (SOC) - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**
- Keegan, Mary L (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Kehres, Cody R (ESM, CJS) - *Cadets and the Campus Community: The Impact of ROTC on Students at the University of Dayton.* | **St. Joseph's Hall 013, 10:00-11:00**
- Kelley, Claire E (ES) - *Improving reading Skills in Third Graders at Kiser Elementary* | **Marianist Hall Learning Space 218, 2:40-3:00**
- Kellman, Olivia M (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Kelly, Brendan J (ECB, FIN) - *How Markets Fall: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Kelly, Clare A (BIO) - *A Comparison of Common Diets for the Laboratory Culture of the Green Bottle Fly, *Lucilia sericata** | **RecPlex, 11:00-12:30**
- Kelly, Clare A (BIO) - *Ovary Staging Analysis of the Female Adult Blow Fly, *Lucilia sericata** | **RecPlex, 11:00-12:30**
- Kelly, Keegan M (MKT) - *How Markets Fall: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**

# STUDENT INDEX

## NAME - TITLE | LOCATION/TIME

- Kelly, Kylie (POL) - *Environmental Rights, Justice, and the Law: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Kelly, Quinlin Clare (CMM) - *The Business of Trafficking: Supply and Demand* | **RecPlex, 9:00-10:30**
- Kelsey, Anne Marie M (MCM) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Kemlage, Daniel R. (UNA, CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Kemp, Kristen A (PSY) - *Put Your Money Where Your Mouth is: Feedback Reduces Overconfidence When Betting* | **RecPlex, 11:00-12:30**
- Kendall, Kelsey A (LDR, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Kennedy, Megan P (CMM) - *Legal Issues Confronting the News Media Concerning Politics, Murder and Undercover Reporting* | **RecPlex, 9:00-10:30**
- Kenny, Kaitlin A (EYA, ENG) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Kepler, Kyle J (MCT) - *Development of Greenhouse for Disabled Farmers* | **RecPlex, 9:00-10:30**
- Khan, Anam (BCM) - *The added elements in the DNA Binding Region of the PrA protein of Deinooccus Radiodurans may serve to modulate PrA unwinding activity* | **RecPlex, 11:00-12:30**
- Kierce, Gerald P (ENT) - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | **Miriam Hall 109, 1:00-2:00**
- Kierce, Gerald P (ENT) - *The SDE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**
- Kilbury, Rachel J (FIN, ECB) - *A Quantitative Approach to Selecting Industry Groups within Sectors for Investment: The Case for Relative Strength and Capture Ratio Analysis* | **RecPlex, 9:00-10:30**
- Kindelin, Lydia R (MTH) - *Generalized Multi-latin Squares* | **RecPlex, 11:00-12:30**
- Kindred, Clayton W (HOA) - *Casualties of War: Iraq and the Destruction of a Culture* | **Marianist Hall Learning Space Commons, 3:00-4:00**
- King, Brandon J. (BIO) - *Fabrication of Low-Cost Flow Cell and Tapered Optical Fibers for Aqueous Biosensing* | **RecPlex, 11:00-12:30**
- King, Brandon J. (BIO) - *Tapered Optical Fibers for Aqueous and Gaseous Phase Biosensing Applications* | **Kennedy Union 222, 4:00-4:20**
- King-Sekulic, Mary-Michael K (HRS, MUT) - *The History and Implications of Child Sexual Abuse in the United States* | **LTC Team Space, 3:00-3:40**
- Kingsolver, William J. (MIS, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Kingsolver, William J. (MIS, OPS) - *Speedway Pay Period Verification System* | **Miriam Hall 207, 2:50-3:20**
- Kinsel, Kathryn M (PSY) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Klementiewa, Elizaveta (POL) - *Supply Chain Investigation of Products Manufactured by Slave Labor* | **RecPlex, 9:00-10:30**
- Klementiewa, Elizaveta (POL) - *Environmental Rights, Justice, and the Law: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Kling, David Barry Foraker (MED) - *A Comparison of Common Diets for the Laboratory Culture of the Green Bottle Fly, Lucilia sericata* | **RecPlex, 11:00-12:30**
- Kloke, Danielle Denise (ESM) - *Food and Beverage Trends in Premium Seating* | **ArtStreet Studio C, 1:40-2:00**
- Klug, Eileen T (WGS, PSY) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Kmetz, Will P (BIO) - *A Functional Key to the Stream Benthic Macroinvertebrates of the Republic of Palau* | **RecPlex, 11:00-12:30**
- Kmetz, Will P (BIO) - *Outfall water quality assessments of the major rivers of Dayton, Ohio* | **RecPlex, 11:00-12:30**
- Kmetz, Will P (BIO) - *Using Epinecrotic Biofilms for Applications in Forensic Science* | **RecPlex, 11:00-12:30**
- Knee, Cody J (POL) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Koculoski, Mark F (ACC, ECB) - *The Role of Safety and Risk in the Returns to Stocks in Volatile Markets* | **RecPlex, 9:00-10:30**
- Koehler, Joanne C (CIS, SOC) - *What YOU can do: Human Trafficking and the impact we as students can have on this issue.* | **RecPlex, 9:00-10:30**
- Koelsch, James (NON) - *Canisius vs. Luther: Their Fight over Mary in the Magnificat* | **LTC Team Space, 1:20-1:40**
- Komoroski, Laura C (ECB) - *Social Justice Club - Miracle Makers* | **RecPlex, 9:00-10:30**
- Komoroski, Laura C (ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Kotwainski, Nicole M (SOC) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Kotwainski, Nicole M (SOC) - *Express Yourself: The Relationship between Music and Depression in Yahoo! Answers* | **St. Joseph's Hall 023, 3:00-4:00**
- Kowalski, Andrew R. (GEN) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Kowalski, Andrew R. (GEN) - *Solving Problems through Academic Synthesis: An Interdisciplinary Approach to Understanding Community Food Environments* | **Kennedy Union East Ballroom, 1:00-2:00**
- Kowalski, Andrew R. (GEN) - *Refining the Visualization of Community Nutrition Environments: An Assessment of Multiple Methods of Geospatial Analysis in Dayton, Ohio, USA* | **St. Joseph's Hall 023, 4:00-5:00**
- Kraft, Timothy John (HST) - *Contrasting Historic and Modern Day Slavery* | **RecPlex, 9:00-10:30**
- Kratz, Jonathan A (CHM) - *Human Trafficking and Ohio* | **RecPlex, 9:00-10:30**
- Kring, Lauren Ashley (MED) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Kunkel, Kelly E (EPT, EVB) - *Reducing Technology Use on Campus: An Experiment* | **Marianist Hall Learning Space 218, 2:00-2:20**
- Kurish, Brian A (BCM) - *Synthesis and Characterization of Polyimides Containing Multi-benzonitrile Groups for Dielectric Applications* | **RecPlex, 11:00-12:30**
- Kurtz, Gabriel R (ECB, FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Kurugu, Tarebo (GEN) - *PRESENTING AND HIGHLIGHTING THE STAGGERING AND SHOCKING STATISTICS OF HUMAN TRAFFICKING IN THE USA.* | **RecPlex, 9:00-10:30**
- Kurzahls, Andy J (POL) - *Understanding The U.S. Trafficking in Persons (TIP) Report* | **RecPlex, 9:00-10:30**
- Kurzahls, Andy J (POL) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Kuzmaul, Alexander J (EVG) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Kwon, Hailey (BIO, PHL) - *Investigation of the Genetic Interactions between Hippo Signaling Pathway and Drosophila C-terminal Src Kinase (d-csk)* | **RecPlex, 11:00-12:30**
- Kwon, Hailey (BIO, PHL) - *Scribble acts in the Drosophila Fat-Hippo pathway to regulate Warts activity* | **RecPlex, 11:00-12:30**
- Lambo, Katya Alexis (INS) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Lambo, Katya Alexis (INS) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Lammers, Tricia (ENT, MKT) - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | **Miriam Hall 109, 1:00-2:00**
- Lang, Graham (PSY) - *Effects of Sustained Attention on Auditory Displays, Mental Workload, and Stress* | **RecPlex, 11:00-12:30**
- Lang, Graham (PSY) - *Detecting Critical Signals in Sustained Visual Attention Tasks Using Simulated Radar Screens* | **RecPlex, 11:00-12:30**
- Lang, Graham (PSY) - *Human Trafficking and Ohio* | **RecPlex, 9:00-10:30**
- Lang, Jennifer M (BIO) - *Using Epinecrotic Biofilms for Applications in Forensic Science* | **RecPlex, 11:00-12:30**
- Langton, Trevor Charles (CHM) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Lannert, Theodore F (MEE) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Lantz, Natalie Anne (OPS, MKT) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Lanter, Erik S (CIS) - *Guns on Campus: Concealed Firearms and Students' Perceptions of Safety at the University of Dayton* | **St. Joseph's Hall 013, 2:00-3:00**
- Laprade, Andrew R (FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Lara, Gabriela (PSY) - *The History and Implications of Child Sexual Abuse in the United States* | **LTC Team Space, 3:00-3:40**
- Larsen, Brian C. (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Latham, Joshua - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Lauber, Elissa A (PSY) - *Perfectionism: Good, Bad, or Growth?* | **RecPlex, 11:00-12:30**
- Lauden, Jonathan W (MEE) - *Simulated Performance Analysis of Novel Automotive Spring-Starter Designs using Experimentally Derived Dynamic Engine Models* | **RecPlex, 11:00-12:30**
- Lazo-Pacheco, Allison Patricia (DEN) - *Improving reading Skills in Third Graders at Kiser Elementary* | **Marianist Hall Learning Space 218, 2:40-3:00**



## NAME - TITLE | LOCATION/TIME

- Leah, Joseph D (CMM) - *What is the Annual US Trafficking in Persons Report?* | **RecPlex, 9:00-10:30**
- Lee, Timothy J (BIO) - *Ovary Staging Analysis of the Female Adult Blow Fly, *Lucilia sericata** | **RecPlex, 11:00-12:30**
- Lefeld, Stephanie E (SPN, VAR) - *Album Familiar (The Family Album): A photographic and written history of two families, two cultures, one people* | **Marianist Hall Learning Space Commons, 3:00-4:00**
- Leff, Matthew B (EYA) - *Research on the Relationship between Policy and Practice in p-12 Schools* | **RecPlex, 9:00-10:30**
- Lenar, Richard E (NON) - *The Thought of Martin Luther on the Immaculate Conception of the Blessed Virgin Mary* | **LTC Team Space, 1:00-1:20**
- Lesko, Jordan J. (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Lesko, Caitlin M (PSY) - *Is Chivalry Really Dead? It Depends on When You Ask: Women's Reception of Benevolent Sexism Changes Across the Menstrual Cycle* | **RecPlex, 11:00-12:30**
- Lenzen, Harry J (OPS, MKT) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Leonard, Sara E (PSY, CIS) - *A Bad Romance: Emergency Responders and Perceptions of Human Trafficking* | **St. Joseph's Hall 013, 3:00-4:00**
- Lesko, Alyssa C (MTH, BCM) - *Functional and Genetic Analysis of Compensatory Responses Induced in Tumors Caused by Loss of Scribble (apical-basal polarity)* | **RecPlex, 11:00-12:30**
- Lesko, Alyssa C (MTH, BCM) - *Differential Hippo Signaling in Compensatory Proliferation in a Drosophila Tumor Model* | **Kennedy Union 211, 2:40-3:00**
- Lesko, Alyssa C (MTH, BCM) - *Analysis of Yorkie activity in scribble mutant cells challenged with different cellcompetitive environments* | **Kennedy Union 211, 3:00-3:20**
- Li, Bingjun (MEE) - *Improving the Techniques for Center of Mass Estimation Using Statically Equivalent Serial Chain Modeling* | **RecPlex, 11:00-12:30**
- Li, Han (EOP) - *Bidirectional Beam Propagation Method for Second-Harmonic Generation in Engineered Multilayer Photonic Bandgap Structures* | **RecPlex, 11:00-12:30**
- Li, Han (EOP) - *Exploring the Sinc-Collocation Method for Solving the Integro-Differential Equation* | **RecPlex, 11:00-12:30**
- Li, Lin (MEE) - *Analysis and Design of Reconfigurable Linkages for Industrial Tasks* | **RecPlex, 11:00-12:30**
- Lian, Chester E (MTH, CPS) - *An Aronszajn Tree* | **RecPlex, 11:00-12:30**
- Lieber, Hannah L (PSY) - *Do Measures of Ocular Gaze Correlate with Subjective Ratings in Assessing Aesthetic Preferences for Faces?* | **RecPlex, 11:00-12:30**
- Lillis, Patrick M (CPS) - *Graphs With Small Intersection Dimension* | **RecPlex, 11:00-12:30**
- List, Mary Patricia (BIO) - *A Characterization of Regulatory Linkages in a Genetic Network for a Derived Fruit Fly Trait* | **RecPlex, 11:00-12:30**
- Liou, Hong (CME) - *The Influence of High Solids Loading Concentration and Scaling-up Operation in Coal Slurry Just-Suspended Agitation by High-Efficiency Impellers* | **RecPlex, 11:00-12:30**
- Liu, Yun (MAT) - *The Isolation and Purification of a Structural Polypeptide from the Ascidian Tunicate *Styela plicata** | **RecPlex, 9:00-10:30**
- Liu, Yuxin (MEE) - *The Isolation and Purification of the Adhesive Proteins of the Blue Mussel, *Mytilus edulis* (L) Using High Performance Liquid Chromatography (HPLC)* | **RecPlex, 9:00-10:30**
- Liutkus, Katherine A (MED) - *Evaluation of Downtown Dayton Community Interest in a Local Foods Market* | **Kennedy Union 312, 4:00-4:20**
- Loges, Kyle T (MCT) - *Emerson Climate Technologies Patent Improvement Project* | **RecPlex, 9:00-10:30**
- Longacre, Kevin (CJS, PSY) - *The Influence of Personal Height and Eye Level on the Perception of Object Dimensions and Affordance Judgments* | **RecPlex, 11:00-12:30**
- Longacre, Kevin (CJS, PSY) - *Fidelity, Bravery, and Integrity: An Analysis of the Representations of FBI "G-Men" in Popular Media* | **RecPlex, 9:00-10:30**
- Longacre, Kevin (CJS, PSY) - *The Science Beyond the Art of Voir Dire: A Physiological Approach to Examining the Influence of Attraction on Jury Deliberation* | **St. Joseph's Hall 013, 4:00-5:00**
- Longbrake, Ryan K (EYA) - *Geologic History of the Earth* | **RecPlex, 9:00-10:30**
- Lovell, Richard J (CMM) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Lowe, Hannah Jessica (SPN, MUT) - *Eating Disorder Diagnoses and Treatments: The Impact of an Educational Symposium* | **RecPlex, 9:00-10:30**
- Lowry, Kyle D (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Lu, Wenhao (ECT) - *Emerson Climate Technologies Patent Improvement Project* | **RecPlex, 9:00-10:30**
- Lucas, Angela (EAH) - *Decisions, Decisions, Decisions: How Undecided, Second Year Students in the College of Arts and Sciences Engage in the Decision Making Process of Choosing a Major* | **LTC Forum, 4:30-6:30**
- Lua, Alexandra V. (POL) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Lustig, Michal J (CEE, MTE) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Lynn, Bridget Petersen (PSY) - *Reconciling Autonomy and Self-Enhancement: Is Consistency the Key to Well-Being?* | **RecPlex, 11:00-12:30**
- Lynn, Natalya N (PSY, LNG) - *The Effect of Context Upon the Perception of Egocentric and Exocentric Distances Using a Walkable Human Muller-Lyer Illusion* | **RecPlex, 11:00-12:30**
- Lynn, Natalya N (PSY, LNG) - *Decoupling the Biomechanics of Locomotion and the Direction of Spatial Updating During Blind-walking Tasks* | **RecPlex, 11:00-12:30**
- Lynskey, Sean C (EYA) - *Social Justice Club Poster Presentation on Homelessness in Montgomery County* | **RecPlex, 9:00-10:30**
- Ma, Michelle Z (OPS, FIN) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Maos, Jordan J. (UEG, CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Maon, Connor J (CMM) - *Press Access to Information about Student-Athletes and Municipalities* | **RecPlex, 9:00-10:30**
- MacKell, Stephen L (PHL, ECO, UEG) - *City of Dayton Economic Development Incentive Programs: Costs and Benefits* | **RecPlex, 11:00-12:30**
- MacKey, Dorothy P (MUP) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Madliger, Aimee M (WGS, ENG) - *Sibling Rivalry or Sibling Abuse?* | **ArtStreet Studio C, 3:00-3:40**
- Magnon, Dominic P (ENT) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**
- Majkowski, Steven (ENT) - *UD Business Plan Competition: Insights from the Finalists* | **Miriam Hall 109, 11:00-12:00**
- Majkowski, Steven (ENT) - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**
- Malloy, Stephanie Marie (IET) - *Emerson Climate Technologies Patent Improvement Project* | **RecPlex, 9:00-10:30**
- Malone, Pamela R (EMS) - *Education in Dayton: A Social Justice Service Club Project* | **RecPlex, 9:00-10:30**
- Maloney, Margaret Ann (SPN, HRS) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Malson, Kaitlyn E (CMM, SPN) - *An Application of Intercultural Communication Theories in the Spanish Workplace* | **RecPlex, 11:00-12:30**
- Mancini, Greg F (EEP, BIO) - *Role of Transcriptional Co activator CREB Binding Protein in Amyloid Beta-42 mediated neurodegeneration* | **RecPlex, 11:00-12:30**
- Marasco, Adam R (ENT, ACC) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**
- Marziale, Stephen A (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Masthay, Thaddeus J (SPN, BCM) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Maston, Amberly J (INS, SPN) - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**
- Mathew, Alex (ELE) - *Water Body Segmentation in Aerial Imagery* | **RecPlex, 11:00-12:30**
- Mayrand, Kelsey Patricia (BCM, MED) - *The Effect of the Inserted Sequence in the Helicase Domain of the *Deinococcus radiodurans* PriA Protein* | **RecPlex, 11:00-12:30**
- Mays, Thomas (EDL) - *Social Capital Development in Higher Education: A Cross-Case Analysis* | **RecPlex, 11:00-12:30**
- Mazur, Elliott M (GEO, PHY) - *Climate-Glacier Relationship of Retreating Alaskan Glaciers* | **RecPlex, 11:00-12:30**
- Mazur, Elliott M (GEO, PHY) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- McAndrew, Sheryl (EDL) - *The Characteristics of Marianist Education: Finding Sustenance for Faculty Community* | **LTC Team Space, 4:30-6:30**
- McAuliffe, Zachary T (CMM, ENG) - *Legal Implications of Publishing National Secrets* | **RecPlex, 9:00-10:30**
- McCadden, William H. (MKT, SOC) - *Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- McCadden, William H. (MKT, SOC) - *The University of Dayton: A Living Wage?* | **St. Joseph's Hall 023, 4:00-5:00**
- McCauley, Emily M (HST) - *Changing Cultural Frameworks* | **Humanities 122, 2:00-3:00**
- McClurg, Robert E (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- McCormick, William W (MIS) - *Premier Health Partners Operating Room Dashboard* | **Miriam Hall 207, 2:20-2:50**

# STUDENT INDEX

## NAME - TITLE | LOCATION/TIME

- McCrady, Mitchell A (MUP) - *The Historical Horn: A Digital Resource Guide to Rare and Historical French Horn Recordings and Performers* | **Kennedy Union 207, 4:00-4:20**
- McCrady, Mitchell A (MUP) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- McCraty, Luke D (MTH) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- McCreary, Evan M (GEN) - *Environmental Rights, Law and Justice: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- McCreary, Evan M (GEN) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- McCutcheon, James R - *Student Songwriter Concert* | **Kennedy Union Boll Theatre, 3:00-4:00**
- McDaid, James H (HST) - *Religion and Daily Life* | **Humanities 122, 4:00-5:00**
- McDaniel, Scott C (THE) - *The Rural/Urban Dyad: Explorations in Space and Place* | **Kennedy Union 222, 2:00-2:20**
- McDonald, Mary Catherine C (REL, HRS) - *Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- McGowin, Emily H (THE) - *Woman in the Full Quiver: An Analysis of the Discourse of Womanhood in the American Quiverfull Movement* | **Humanities 118, 2:00-2:20**
- McGrail, Kelsey J (PSY) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- McGrail, Kyle P (BIO) - *Assessing the Effect of Shear Stress on AQP1 Expression in Vascular Endothelial Cells in vitro.* | **RecPlex, 11:00-12:30**
- McGrath, Colin T (ENT, LDR) - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | **Miriam Hall 109, 1:00-2:00**
- McGrath, Colin T (ENT, LDR) - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**
- Mcmonagle, Connor R (MUE) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- McNamee, Connor W (GER, MED) - *The Ancestry and Evolution of the Fruit Fly *t<sub>MSE</sub>* Cis-Regulatory Element* | **RecPlex, 11:00-12:30**
- McNary, Morgan T (ET) - *Facade Improvement Program - City of Dayton* | **RecPlex, 9:00-10:30**
- McQuillen, Andrew T (PHY) - *Detecting Changes in the Earth's Magnetic Field* | **RecPlex, 11:00-12:30**
- Mehall, Mark D (PSY) - *Child Abuse and the Internet* | **RecPlex, 9:00-10:30**
- Mehall, Mark D (PSY) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Meitner, Matthew T (HST) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Melendez, Jonathan B (MED) - *Fabrication of Low-Cost Flow Cell and Tapered Optical Fibers for Aqueous Biosensing* | **RecPlex, 11:00-12:30**
- Meme, Kaitlin M (VCD) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Merecicky, Kelly E (VAR, PSY) - *Creative Healing: Using Art as Therapy* | **Marianist Hall Learning Space Commons, 3:00-4:00**
- Merrino, Ashley T (CJS, POL) - *Effectiveness of Ohio's Mental Health Courts in Reducing Recidivism* | **St. Joseph's Hall 013, 1:00-2:00**
- Messer, Nicholas S (ECB, FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Messick, Jessica (CEE) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Meter, Lindsey C (PSY) - *The Role of Visual and Proprioceptive Limb Information in Affordance Judgments and Action Capabilities* | **RecPlex, 11:00-12:30**
- Metz, Jessica C (POL) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Metzger, Stephen J. (UNA, CJS) - *The Effects of the use of Force by Police Officers* | **St. Joseph's Hall 013, 4:00-5:00**
- Meyer, William G (MIS, MKT, ENT) - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**
- Michaelis, Brendan Daniel (MUT) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Middleton, David A (MUE) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Middleton, David A (MUE) - *Minimalism: The Music and Influence of Steve Reich on Percussion Music, Composition, and Performance* | **Sears Recital Hall, 3:30-4:30**
- Miller, Kelly (CMM, ENG) - *Evaluation of Downtown Dayton Community Interest in a Local Foods Market* | **Kennedy Union 312, 4:00-4:20**
- Miller, Nancy A - *Interest Groups, Money and Influence* | **LTC Studio, 2:30-3:30**
- Mills, Kelsey A (GDN) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Mills, Peter N (ENG) - *Patriotism and G.K. Chesterton* | **RecPlex, 9:00-10:30**
- Mills, Peter N (ENG) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Minarchek, Kelly E (PSY) - *Observed Hazard Interactions by Preschool Children and Their Sibling Supervisors* | **RecPlex, 11:00-12:30**
- Mint, Jessica A (CJS) - *The History and Implications of Child Sexual Abuse in the United States* | **LTC Team Space, 3:00-3:40**
- Miranda, Giuseppe G (PSY) - *Effects of Sustained Attention on Auditory Displays, Mental Workload, and Stress* | **RecPlex, 11:00-12:30**
- Miranda, Giuseppe G (PSY) - *Spatial Intelligence and Memory for Location in Athletes and Non-Athletes* | **RecPlex, 11:00-12:30**
- Miranda, Giuseppe G (PSY) - *Detecting Critical Signals in Sustained Visual Attention Tasks Using Simulated Radar Screens* | **RecPlex, 11:00-12:30**
- Miranda, Jeffrey A. (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Mingolotta, Marissa L (PSY) - *Educating for a Global Community: UD's African Immersion Experience Program* | **Kennedy Union 331, 3:00-4:30**
- Mitchell, Elizabeth A (HRS) - *Competing Responsibly: Are Businesses Appropriately Balancing the Motive of Profit with the Social Responsibility of Upholding Human Rights?* | **RecPlex, 11:00-12:30**
- Mitchell, Elizabeth A (HRS) - *Environmental Rights, Justice, and the Law: Clean Water Ltd in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Mitchell, Mary L (PSY) - *Advocating for Vulnerable Children* | **RecPlex, 9:00-10:30**
- Moeller, Kelley L (ECE) - *What YOU can do: Human Trafficking and the impact we as students can have on this issue.* | **RecPlex, 9:00-10:30**
- Moerman, Catherine M (FIN, OPS) - *A Cross Sectional Analysis of Returns to S&P Industry Groups Over the Trading Range Period, 2011-2012.* | **RecPlex, 9:00-10:30**
- Moerman, Catherine M (FIN, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Mooney, David P (MIS) - *Speedway Pay Period Verification System* | **Miriam Hall 207, 2:50-3:20**
- Moorman, Christopher M (CMM) - *Press Access to Information about Student-Athletes and Municipalities* | **RecPlex, 9:00-10:30**
- Moran, Michael T (BIO) - *Drosophila eye model to identify genetic modifiers of amyloid beta 42 (A<sub>42</sub>) mediated neurodegeneration* | **RecPlex, 11:00-12:30**
- Morgan, Eugenie T (CMM) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Morman, Brian J (ELE) - *Social Justice Service Learning Organization 2012-2013 Service Projects* | **RecPlex, 9:00-10:30**
- Morris, Ben J. (CIS) - *The Institutional and Individual Causes of Political Corruption in the United States* | **St. Joseph's Hall 013, 9:00-10:00**
- Morrison, Andrea (ENT, MKT) - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | **Miriam Hall 109, 1:00-2:00**
- Morrison, Elizabeth A (BIO) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Mosquera, Lucia (NON) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Motto, Jacob M (CJS) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Mudd, Lindsay M (CMM) - *Exposing Nike: Team Sweat* | **RecPlex, 9:00-10:30**
- Mudd, Lindsay M (CMM) - *Legal Issues Confronting the News Media Concerning Politics, Murder and Undercover Reporting* | **RecPlex, 9:00-10:30**
- Mueller, Kayla M (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Muir, John G (OPS) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Muir, John G (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Mullee, Madeleine J (ECE, PSY) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Mulligan, Ryan J (CMM) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Munno, Joseph F. (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**

## NAME - TITLE | LOCATION/TIME

- Munyemana, Sophia S (FIM) - *The Kou Jump-Diffusion Model for Option Pricing* | **RecPlex, 11:00-12:30**
- Murray, Kimberly R (OPS, ENT) - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**
- Nagel, Kyle P (POL) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Nair, Binu M (ELE) - *Intrusion Detection on Oil Pipeline Right of Way (ROW) using Monogenic Signal Representation* | **RecPlex, 11:00-12:30**
- Nair, Binu M (ELE) - *Robust Artificial Intelligence-based Defense Electro Robot (RAIDER)* | **RecPlex, 11:00-12:30**
- Nair, Binu M (ELE) - *Pose Invariant Face Recognition and Tracking for Human Identification* | **RecPlex, 11:00-12:30**
- Nair, Binu M (ELE) - *Regression based Learning of Human Actions from Video using Histogram of Flow and Local Binary Flow Patterns* | **Kennedy Union 207, 1:40-2:00**
- Nandor, Jeff T (CMM) - *Human Trafficking and Ohio* | **RecPlex, 9:00-10:30**
- Nandor, Jeff T (CMM) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Nash, Curtis R (EDL) - *Faculty Student Services Training: The Fourth Pillar of Faculty Life* | **LTC Team Space, 4:30-6:30**
- Nash, Curtis R (EDL) - *An Inductive Approach toward Understanding the Legal Parameters of Student Speech Regarding Social Media Technology* | **RecPlex, 9:00-10:30**
- Natarian, Benjamin E (ELE) - *Robust Artificial Intelligence-based Defense Electro Robot (RAIDER)* | **RecPlex, 11:00-12:30**
- Neal, Alexandra E (BIO) - *Evaluation of Downtown Dayton Community Interest in a Local Foods Market* | **Kennedy Union 312, 4:00-4:20**
- Neal, Alexandra E (BIO) - *Environmental Rights, Justice, and the Law: Clean Water Ltd in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Nelson, John R (MEE) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Nelson, Jonathan P (INS, SPN) - *Can Singapore's Public Housing Successes be Replicated Elsewhere?* | **St. Joseph's Hall 231, 4:20-4:40**
- Nelson, William J (CME) - *Investigation and Testing of Corrosion Inhibiting Polyphenolic Proteins* | **RecPlex, 11:00-12:30**
- Nennig, Bryanna A (UBU, PSY, EMS) - *Environmental Rights, Law and Justice: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Neubauer, George H (BIO) - *Beta 2 Tubulin Amino Acids Required for Spermatid Axoneme Function* | **RecPlex, 11:00-12:30**
- Newlove, Amanda J (SOC) - *Hearing the Voices of the People: Community Perceptions of Coal Mining* | **St. Joseph's Hall 023, 3:00-4:00**
- Newlove, Troy A (MUE) - *Minimalism: The Music and Influence of Steve Reich on Percussion Music, Composition, and Performance* | **Sears Recital Hall, 3:30-4:30**
- Nichols, Luke A (MTE, ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Nicoletto, Kathleen A (PSY, CJS) - *I Can Tell by Your Smile: A Study of Alternative Partner Preference Using Facial EMG* | **RecPlex, 11:00-12:30**
- Nicoletto, Kathleen A (PSY, CJS) - *The Impact of Using Live Animals Mascots at Universities* | **St. Joseph's Hall 013, 9:00-10:00**
- Nieman, Joshua E. (MEE) - *Design and Prototyping of a 3D Shape Changing Mechanism* | **RecPlex, 11:00-12:30**
- Norris, Douglas J (ACC) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Novak, Andrew J (ACC, ENT) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**
- Nueslein, Nicholas (LDR, MKT) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Oblock, Gregory P. (CMM) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- O'Boyle, Ryan E (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- O'Brien, James P (POL) - *Prosecuting Genocide: A case study of the Khmer Rouge* | **RecPlex, 9:00-10:30**
- O'Bryan, Sean T. (CJS) - *Teachers and Firearms* | **St. Joseph's Hall 013, 2:00-3:00**
- Ochs, Emily A - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- O'Connell, Cassandra L (VCD) - *Branding: Designing for the Consumer's Perception* | **ArtStreet Studio C, 2:00-2:40**
- O'Connell, Erin M (EHA) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- O'Grady, Cara M (PSY) - *Using a Mental Rotation Task to Assess the Effect of Biasing Information on Overconfidence and Narcissism* | **RecPlex, 11:00-12:30**
- Ogren, Paul J. (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- O'Hara, Robert (EAH) - *The Jury's Still Out: Cognitive Development of First-Year Law Students* | **LTC Forum, 4:30-6:30**
- O'Mera, Bridget K (PSY) - *Is Chivalry Really Dead? It Depends on When You Ask: Women's Reception of Benevolent Sexism Changes Across the Menstrual Cycle* | **RecPlex, 11:00-12:30**
- Oneill, Tara L (VCD) - *Branding: Designing for the Consumer's Perception* | **ArtStreet Studio C, 2:00-2:40**
- Onofre, Wendy (POL) - *Modern Day Slavery: A Contrast Between Historical Thoughts of Slavery and the Modern Reality* | **RecPlex, 9:00-10:30**
- Orlet, Patrick D (ACC) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**
- Orman, Samuel W (ECB, FIN) - *Using Relative Valuation and Earnings Momentum to Measure the Returns to Stocks within Industry Groups* | **RecPlex, 9:00-10:30**
- Ortega, Flor J (PSY, REL) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Owings, Kurt J (POL) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Oxman, Matthew J (GEO) - *Ordovician Chitinozoan Biogeography and Paleocology: Examining the Effect of Habitat on Species Longevities* | **RecPlex, 9:00-10:30**
- Pair, Taylor D (POL, CHM) - *Solid State NMR of Beryllium Exchanged Minerals: A Study of Beryllium in Clays and Soils* | **RecPlex, 11:00-12:30**
- Pair, Taylor D (POL, CHM) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Pair, Taylor D (POL, CHM) - *Environmental Rights, Law and Justice: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Pajka, Jill M (ART) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Pajka, Jill M (ART) - *La Fin: Senior Portfolio Presentations* | **ArtStreet Studio B, 1:00-2:00**
- Palumbo, Joseph Gennaro (UNA) - *Social Justice Service Learning Organization 2012-2013 Service Projects* | **RecPlex, 9:00-10:30**
- Palumbo, Peter S (INS) - *Advocacy of Greater Utilization of UNESCO World Heritage Site Benefits in Regards to Southeast Asia* | **RecPlex, 9:00-10:30**
- Paolo, Sarah (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Pappas, Carli Maryse (CMM) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Parker, Joshua A (MUE) - *Minimalism: The Music and Influence of Steve Reich on Percussion Music, Composition, and Performance* | **Sears Recital Hall, 3:30-4:30**
- Paton, Maxwell T (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Patterson, Colin P (CJS) - *Firearm Safety: A Case Study to Prevent the Next Columbine Shooting* | **St. Joseph's Hall 013, 2:00-3:00**
- Patterson, Erin L (ELE) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Paulin, Brennan A (CMM, MUC) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Paulus, Dustin S (CJS, SOC) - *Patterns of Recidivism: Are Sex Offenders Going Back for Seconds?* | **St. Joseph's Hall 013, 1:00-2:00**
- Pauszek, Joseph R (PSY) - *The Impact of Social Awareness, Empathy, and Confidence on Blindness to Change in Facial Emotions* | **RecPlex, 11:00-12:30**
- Paxson, Olivia M (EIS) - *What YOU can do: Human Trafficking and the impact we as students can have on this issue* | **RecPlex, 9:00-10:30**
- Payne, Jonathan D (MUP) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Peatee, Jessica (CLP) - *Perception of Non-physical Abuse in Intimate Partner Relationships* | **RecPlex, 11:00-12:30**
- Peck, Sarah M (OPS, LDR) - *Flyer Enterprises: The Experience* | **Miriam Hall 214, 11:00-12:00**
- Pecora, Andrew G (UNA) - *PRESENTING AND HIGHLIGHTING THE STAGGERING AND SHOCKING STATISTICS OF HUMAN TRAFFICKING IN THE USA* | **RecPlex, 9:00-10:30**
- Pedersen, Maya Victoria (PSY) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Pedreira Tome, Luis A (POL, HST) - *Human Trafficking in the United States* | **RecPlex, 9:00-10:30**
- Peery, Erin E (LDR) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**

# STUDENT INDEX

## NAME - TITLE | LOCATION/TIME

- Peng, Shaonan (FIN) - *beta and alpha:using excel to measure portfolio risk and performance* | **Miriam Hall 214, 3:40-4:10**
- Pepper, Hannah C (CJS) - *The History and Implications of Child Sexual Abuse in the United States* | **LTC Team Space, 3:00-3:40**
- Pera, Grace Margaret (SOC) - *Waiting to See What's Over the Hill: Developing a Better Understanding of Older Females in Retirement Care Facilities* | **St. Joseph's Hall 023, 3:00-4:00**
- Perkovich, Eric Robert (MEE) - *Social Justice Service Learning Organization 2012-2013 Service Projects* | **RecPlex, 9:00-10:30**
- Petrocci, Laura R (ART) - *La Fin: Senior Portfolio Presentations* | **ArtStreet Studio B, 1:00-2:00**
- Petrocci, Sarah T (MUT) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Petrus, Emilee A (BIO) - *Educating for a Global Community: UD's African Immersion Experience Program* | **Kennedy Union 331, 3:00-4:30**
- Phillips, Haley D (EHA) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Phillips, Rachel (POL) - *Understanding The U.S. Trafficking in Persons (TIP)Report* | **RecPlex, 9:00-10:30**
- Pickerill, Emma C (MKT) - *Social Justice Club - Miracle Makers* | **RecPlex, 9:00-10:30**
- Pickren, Richard S (CJS) - *Smart Policing: How Dayton Deals With Violent Street Groups* | **St. Joseph's Hall 013, 2:00-3:00**
- Pipik, Amanda M (POL, CMM) - *Child Abuse and the Internet* | **RecPlex, 9:00-10:30**
- Pirages, John W (OPS, LDR) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Pisani, Milena L (CEE) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Pisani, Milena L (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Pleasant, Mark S (EVG) - *An International and Interdisciplinary Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Polette, Curtis J (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Porter, Lauren E (WGS, CMM) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Porter, Lauren E (WGS, CMM) - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**
- Potter, Matthew Stephen (ENT) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**
- Powar, Nilesh U (ELE) - *Facial Expression Analysis* | **RecPlex, 11:00-12:30**
- Powers, Jordan A (CMM, POL) - *The Role of Non-State Actors in Congo* | **Kennedy Union 310, 1:00-2:00**
- Prager, Emily A (WGS) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Pregent, Grace Lisa (UED, EAH) - *The Graying and the Disgruntled: A Needs Assessment of Associate Professors* | **LTC Forum, 4:30-6:30**
- Pregent, Grace Lisa (UED, EAH) - *Becoming a World Citizen through Studying Abroad* | **Miriam Hall 119 - O'Leary Auditorium, 1:00-2:00**
- Prendergast, Marcy A (INS) - *Human Trafficking and Service Learning: Considering the Impact of Awareness-Raising Events on its Implementors and Audience* | **RecPlex, 9:00-10:30**
- Price, Amy L (EYA, BIO) - *Spatial and Temporal Patterns of Herb-layer Biodiversity in an Old-growth Temperate Deciduous Forest* | **RecPlex, 11:00-12:30**
- Price, Amy L (EYA, BIO) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Province, Jennifer K (PHO) - *Department of Visual Arts, Senior Capstone Projects in Photography* | **ArtStreet Studio B, 2:30-4:30**
- Puli, Oorwash Roy Gajendranath (BIO) - *Defective proventricular (dve), a new member of DV patterning in the eye.* | **Kennedy Union 211, 1:00-1:20**
- Purdy, Jillian M (EIS) - *Sibling Rivalry or Sibling Abuse?* | **ArtStreet Studio C, 3:00-3:40**
- Puricelli, Jonathan D (HRS) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Puskaric, Gregory C (CIS) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Putbres, Matt G (MTE) - *Relative Strength, Sector Weighting, and Sector Returns: A Portfolio Analysis for the Period 2008-2012* | **RecPlex, 9:00-10:30**
- Pytel, Lauren M (PSY) - *The Effect of Context Upon the Perception of Egocentric and Exocentric Distances Using a Walkable Human Muller-Lyer Illusion* | **RecPlex, 11:00-12:30**
- Pytel, Lauren M (PSY) - *Decoupling the Biomechanics of Locomotion and the Direction of Spatial Updating During Blind-walking Tasks* | **RecPlex, 11:00-12:30**
- Queeman, Yaimarie (ENT, MKT) - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**
- Queeman, Yaimarie (ENT, MKT) - *Becoming a World Citizen through Studying Abroad* | **Miriam Hall 119 - O'Leary Auditorium, 1:00-2:00**
- Quinn, David P (MUC) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Quinn, Margaret M (EYA) - *Research on Standardized Tests in p-12 Schools* | **RecPlex, 9:00-10:30**
- Radabaugh, Kelsey L (MEE) - *Education in Dayton; A Social Justice Service Club Project* | **RecPlex, 9:00-10:30**
- Rahman, Faisal S. (UEG, MEE) - *The Introduction of Solar Technology in Porto de Moz, Brazil* | **RecPlex, 9:00-10:30**
- Rajaiah, Daniel S (POL) - *Interest Groups, Money and Influence* | **LTC Studio, 2:30-3:30**
- Raptis, Sophia D (BIO) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Ratycz, Connor (BIO) - *Ovary Staging Analysis of the Female Adult Blow Fly, *Lucilia sericata** | **RecPlex, 11:00-12:30**
- Raziej, Seyed Ataollah (ENM) - *Assessment of Alternatives Effects and Choosing the Optimized Demand Response Capacity of Automatic Lighting System* | **RecPlex, 9:00-10:30**
- Recker, Jacob A (FIN) - *An Overview of the Top-Down Investment Process for the Flyer Fund* | **Miriam Hall 118 - Davis Center, 3:40-4:40**
- Reda, Concetta M (POL) - *Human Trafficking and Service Learning: Considering the Impact of Awareness-Raising Events on its Implementors and Audience* | **RecPlex, 9:00-10:30**
- Reda, Concetta M (POL) - *Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Redden, Victoria L (OPS, ENT) - *Environmental Rights, Justice, and the Law: Clean Water Ltd in Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Reilly, Connor P (POL, HST) - *Megachurch-Based Regionalism: Exploring the Practices of Urban-Suburban Partnerships, Regional Branch Campuses, and Regional Church Plants* | **St. Joseph's Hall 221, 4:00-4:20**
- Reich, Joseph R (FIN, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Relinger, Danielle J (CME) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Rendulic, Katelyn (HST) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Renner, Bethany A. (PAD, UNA) - *Bringing Our Rivers to the Community: The RiverMobile* | **C Lot, 10:00-12:00**
- Rentz, Jennifer M (EAH) - *Leadership Identity Development of LGBT-Identifying Students* | **LTC Forum, 4:30-6:30**
- Respar, Natalie E (EAS) - *Educating Middle and High School Students in the Miami Valley about Human Trafficking* | **St. Joseph's Hall 231, 2:40-3:00**
- Rettig, Jacob D (POL, CIS) - *Interest Groups, Money and Influence* | **LTC Studio, 2:30-3:30**
- Reynolds, Sarah (ENT, FIN) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Riley, Logan S (SOC) - *Political Polarization and American Voters* | **St. Joseph's Hall 023, 3:00-4:00**
- Riley, Margaret Mary T (EYA) - *Research on Private p-12 Schools in the United States* | **RecPlex, 9:00-10:30**
- Riordan, John M (BIO) - *A Comparison of Common Diets for the Laboratory Culture of the Green Bottle Fly, *Lucilia sericata** | **RecPlex, 11:00-12:30**
- Rismiller, Kyle P (BIO) - *Protocal Standardization of Microscale Quantification by Flow Cytometry Reveals a Correlation to Healthy Donor Total Body Weight* | **Kennedy Union 211, 4:00-4:20**
- Roark, Erin J (BCM) - *The Development, Formulation and Stability of Suds and Antifoam for Heavy Duty Liquid Laundry Detergents* | **RecPlex, 11:00-12:30**
- Roberts, Andy A (EAS) - *Interest Groups, Money and Influence* | **LTC Studio, 2:30-3:30**
- Roberts, Andy A (EAS) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Roberts, Eric A (ENT, MKT) - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | **Miriam Hall 109, 1:00-2:00**
- Roberts, Eric A (ENT, MKT) - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**
- Robie, Ryan P (PSY) - *The Effect of Graphic Quality in Virtual Environments on the Perception of Egocentric and Exocentric Distances* | **RecPlex, 11:00-12:30**
- Robinson, Jalisa J (ART) - *Enhancing Campus Climate* | **Marianist Hall Learning Space 218, 2:20-2:40**

## NAME - TITLE | LOCATION/TIME

- Robinson, Molly Rose (ECP) - *The Impact of Advisors on Student Organizations* | LTC Forum, 4:30-6:30
- Roebke, Austin J (MED) - *Genetic Interaction of Discs-large [Dlg] with Hippo Signaling Pathway* | RecPlex, 11:00-12:30
- Rogan Floom, Carrie Lynn (EDL) - *Adjuncts: Part Time, Full Awareness* | LTC Team Space, 4:30-6:30
- Rogers, William A (BIO) - *Defining the transcription factor genes and their target gene interactions for a model developmental and evolutionary trait* | RecPlex, 11:00-12:30
- Rogers, William A (BIO) - *The mutations, molecular mechanisms, and constraints directing the evolution of a Drosophila cis-regulatory element* | RecPlex, 11:00-12:30
- Rogers, William A (BIO) - *The Shaping of a Dimorphic Trait: The Evolution of Bab Paralog Expression and Abdominal Pigmentation among Sophophora Fruit Fly Species* | RecPlex, 11:00-12:30
- Rohan, Matthew J (INS) - *Southeast Asian Terrorism: The Second Front* | St. Joseph's Hall 231, 2:00-2:20
- Romans, Bailey M (CMM) - *Human Trafficking Awareness: United States* | St. Joseph's Hall 231, 1:00-1:40
- Rosequist, Paulina E (PSY) - *Do Measures of Ocular Gaze Correlate with Subjective Ratings in Assessing Aesthetic Preferences for Faces?* | RecPlex, 11:00-12:30
- Roth, Edward F. (UEG, CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | Kennedy Union Boll Theatre, 8:30-12:30
- Rotuno, Theresa A (EVA) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | LTC Studio, 1:00-2:00
- Ruddy, Meghan N (PSY) - *The History and Implications of Child Sexual Abuse in the United States* | LTC Team Space, 3:00-3:40
- Rudman, Benjamin F (ACC, FIN) - *Developing a Valuation Based Portfolio of Dow Jones Stocks* | RecPlex, 9:00-10:30
- Ruggiero, Evan M (MIS) - *DP & L Asset Tracking System* | Miriam Hall 207, 3:40-4:10
- Ruggiero, John G - *Estimating Productivity of Australian Schools Using a Public Sector Malmquist Measure* | RecPlex, 11:00-12:30
- Ruggiero, John G - *Evaluating the Performance of Ohio Schools: A Nonparametric Analysis* | RecPlex, 9:00-10:30
- Russell, Michael Fitzgerald (PSY) - *The Business Side of Human Trafficking* | RecPlex, 9:00-10:30
- Rutkousky, Jessica K (PSY) - *Child Abuse and the Internet* | RecPlex, 9:00-10:30
- Rutkousky, Jessica K (PSY) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | LTC Meeting Space, 3:00-4:00
- Ryan, Megan P (GEO) - *Contact Relationships between Goshen Dome rocks and surrounding schists, West-Central Massachusetts, USA* | RecPlex, 9:00-10:30
- Ryan, Michael J - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | RecPlex, 9:00-10:30
- Ryan, Shelby R. (PSY) - *The Business of Trafficking: Supply and Demand* | RecPlex, 9:00-10:30
- Rynne, Lindsay C - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | RecPlex, 9:00-10:30
- Saad, Ehusain S (ELE) - *Internet as Dictionary For Image Compression* | RecPlex, 11:00-12:30
- Sabagh, Laila T (MED, INS, POL, HRS) - *Environmental Rights, Justice, and the Law: Clean Water Ltd in Jefferson Township* | Marianist Hall Learning Space Commons, 1:00-2:00
- Sack, Timothy C. (BCM) - *UV-induced photodegradation of beta-carotene in hexane solvent* | RecPlex, 11:00-12:30
- Saleh, Hussien (ACC, FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | Miriam Hall 103, 8:00-4:00
- Sales, Rachel K (EVB) - *String Chamber Music* | Sears Recital Hall, 11:00-12:00
- Saliba, Lawrence J (BIO) - *Assessment of Strains of Thermophilic Algae for Summer Growth* | RecPlex, 11:00-12:30
- Salomone, Joseph R (BIO) - *The mutations, molecular mechanisms, and constraints directing the evolution of a Drosophila cis-regulatory element* | RecPlex, 11:00-12:30
- Salomone, Joseph R (BIO) - *The Shaping of a Dimorphic Trait: The Evolution of Bab Paralog Expression and Abdominal Pigmentation among Sophophora Fruit Fly Species* | RecPlex, 11:00-12:30
- Saltis, Michael L. (POL, HST) - *Religion and Daily Life* | Humanities 122, 4:00-5:00
- Sanders, Britney Nicole - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | RecPlex, 9:00-10:30
- Sanders, Deanna M (PSY) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | LTC Forum, 1:00-3:00
- Santhaseelan, Varun (ELE) - *Image Registration, Moving Object Detection and Tracking in Wide Area Motion Imagery* | RecPlex, 11:00-12:30
- Santhaseelan, Varun (ELE) - *Extracting Context Information from Aerial Imagery for Aiding Threat Detection* | RecPlex, 11:00-12:30
- Santhaseelan, Varun (ELE) - *Detection of Whale Blows in Infrared Video* | Kennedy Union 207, 2:40-3:00
- Santiago, Khristian Alejandro (OPS) - *Diversity and Campus Climate: A Closer Look at UD* | St. Joseph's Hall 025, 10:30-11:30
- Santoro, Samantha L. (CMM) - *Social Justice Club - Miracle Makers* | RecPlex, 9:00-10:30
- Satariano, Chris A (MUT) - *Honors Recital Auditions* | Sears Recital Hall, 1:00-3:00
- Savio, Anthony J. (MIS) - *Intelligence Resume Management System* | Miriam Hall 207, 4:10-4:40
- Scantlin, Ronda M - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | LTC Studio, 1:00-2:00
- Schaid, William M (FIN, ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | Miriam Hall 103, 8:00-4:00
- Scharpf, William J (BIO) - *Studying the Evolution of Beta 2 Tubulin in Diptera* | RecPlex, 11:00-12:30
- Scheid, Rebecca E (ACC) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | RecPlex, 9:00-10:30
- Scheidler, Carson (FIN, ENT) - *The Sophomore Entrepreneurial Experience Course* | Miriam Hall 214, 1:00-2:00
- Schelling, John C (ECT) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | LTC Meeting Space, 3:00-4:00
- Schilling, Todd K (EAH) - *Bridging the Gap: Identity Crises and Self-Authorship of Veterans in Higher Education* | LTC Forum, 4:30-6:30
- Schilter, Megan C (EPT) - *Educating for a Global Community: UD's African Immersion Experience Program* | Kennedy Union 331, 3:00-4:30
- Schindler, Eric W (EVA) - *Geologic History of the Earth* | RecPlex, 9:00-10:30
- Schlabig, Meredith N. (MUT) - *Eating Disorder Diagnoses and Treatments: The Impact of an Educational Symposium* | RecPlex, 9:00-10:30
- Schlater, Nicole A (PSY, CJS) - *Sandy Hook Elementary School Shooting as a Tipping Point for Gun Policy Reform in the United States* | St. Joseph's Hall 013, 3:00-4:00
- Schlueter, Eric D (OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | Miriam Hall 104, 1:00-2:00
- Schmid, Heidi N (CJS) - *Perceptions of Sexual Behavior For the Exchange of a Benefit by College Students: The Depiction of Reality* | St. Joseph's Hall 013, 1:00-2:00
- Schmidt, Joseph A (GEO) - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | Kennedy Union East Ballroom, 2:30-3:30
- Schneider, Madeleine L (PSY) - *The Business of Trafficking: Supply and Demand* | RecPlex, 9:00-10:30
- Schneider, Meghan K (CMM) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | LTC Meeting Space, 3:00-4:00
- Schneider, Meghan K (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | LTC Studio, 1:00-2:00
- Schneider, Theresa Mae (HRS) - *What Isn't Considered in the Dressing Room: Human Rights Violations Behind the Clothing Industry.* | RecPlex, 9:00-10:30
- Schneider, Yemani E (MUT) - *String Chamber Music* | Sears Recital Hall, 11:00-12:00
- Schneider, Yemani E (MUT) - *Honors Recital Auditions* | Sears Recital Hall, 1:00-3:00
- Schroeder, Matthew S (MUE) - *Honors Recital Auditions* | Sears Recital Hall, 1:00-3:00
- Schuler, Rachel Leah (EMS) - *Research on Private p - 12 Schools in the United States* | RecPlex, 9:00-10:30
- Schultheis, Benjamin M (MEE) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | RecPlex, 11:00-12:30
- Schultz, Amy K (CEE) - *Environmental Rights, Law and Justice: Clean Water Limited and Jefferson Township* | Marianist Hall Learning Space Commons, 1:00-2:00
- Schwarze, William J (IET) - *Ingrid Photovoltaic Solar Panel System* | RecPlex, 9:00-10:30
- Schweers, Peter J (ENT) - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | Miriam Hall 109, 1:00-2:00
- Schweers, Peter J (ENT) - *The SDE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | Miriam Hall 109, 2:20-3:20
- Schwob, Jeremy T (PSY) - *The Role of Visual and Proprioceptive Limb Information in Affordance Judgments and Action Capabilities* | RecPlex, 11:00-12:30
- Schwob, Jeremy T (PSY) - *The Impact of Social Awareness, Empathy, and Confidence on Blindness to Change in Facial Emotions* | RecPlex, 11:00-12:30

# STUDENT INDEX

## NAME - TITLE | LOCATION/TIME

- Scoumis, Kayla (PSY, ENG) - *I Can Tell by Your Smile: A Study of Alternative Partner Preference Using Facial EMG* | **RecPlex, 11:00-12:30**
- Seiwert, Karl J (BCM) - *Preparation of some new epoxy-functionalized phosphonate and phosphate esters as reactive flame retardants for polyurethane* | **RecPlex, 11:00-12:30**
- Selsky, Samantha (PSY, SOC) - *College Student Experiences of Bullying and the Role of Technology* | **St. Joseph's Hall 023, 2:00-3:00**
- Sember, William J (ELE) - *The Glass Walls Project: Visualizing Laboratories to Facilitate Collaboration* | **RecPlex, 11:00-12:30**
- Severt, Jacqueline L (BIO) - *Mutation Frequency in Mouse Embryonic Stem Cells After Exposure to Carbon Nanomaterials* | **RecPlex, 11:00-12:30**
- Sexton, Carrie A (PHO) - *Department of Visual Arts, Senior Capstone Projects in Photography* | **ArtStreet Studio B, 2:30-4:30**
- Sexton, Derek M (OPS, MKT) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Shaub, Evan F (CMM) - *Journalists' Rights under State Shield Laws* | **RecPlex, 9:00-10:30**
- Shaw, Claire M (ENG, EVA) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Shaw, Kevin D (PSY) - *Observed Hazard Interactions by Preschool Children and Their Sibling Supervisors* | **RecPlex, 11:00-12:30**
- Sheedy, Ryan P (MIS) - *DP & L Asset Tracking System* | **Miriam Hall 207, 3:40-4:10**
- Sheehan, Ryan (CJS) - *Racism & Law Enforcement* | **St. Joseph's Hall 013, 11:00-12:00**
- Shelley, Erin R (CMM) - *Environmental Rights, Justice, and the Law: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 1:00-2:00**
- Shepard, Jack Patrick (UBU) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Sherman, Brittany A (MIS, ACC) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Sherman, Kimberly A (EPT, EEP, MED) - *The Effectiveness of a Personalized Peer Physical Education Program the Related Physical Fitness, Diet, and Attitudes Toward Exercise/Diet of Selected College Students* | **RecPlex, 9:00-10:30**
- Shewhart, Lauren E (BIO) - *Impact of Amur Honeysuckle (Lonicera maackii) Leachate on Culex pipiens Survivorship, Growth, and Pupation* | **RecPlex, 11:00-12:30**
- Shewhart, Lauren E (BIO) - *A Year-Long Study of Carrion, Insects, and Scavengers* | **RecPlex, 11:00-12:30**
- Shewhart, Lauren E (BIO) - *Outfall water quality assessments of the major rivers of Dayton, Ohio* | **RecPlex, 11:00-12:30**
- Shockey, Kathryn R (POL) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Sholits, Nicholas P (CJS) - *Is the Juice Worth the Squeeze: The Sociological Implications of Steroid Use in Major League Baseball* | **St. Joseph's Hall 013, 10:00-11:00**
- Shortell, Kristen M (PHO) - *Department of Visual Arts, Senior Capstone Projects in Photography* | **ArtStreet Studio B, 2:30-4:30**
- Shremshock, Jessica F (EPT) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Shuey, Michael J (CMM) - *Legal Implications of Publishing National Secrets* | **RecPlex, 9:00-10:30**
- Sibilia, Angela M (MED) - *Spontaneous Pneumothorax* | **RecPlex, 11:00-12:30**
- Siehl, Jessica A (EAH) - *Train, Test, Send out the Best: Teaching styles and student achievement among military training* | **LTC Forum, 4:30-6:30**
- Silverberg, Kerry A (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Silverman, Nancy P (EDL) - *Preparing Medical Faculty to Teach End-of-Life Care* | **LTC Team Space, 4:30-6:30**
- Sirk, Kevin A (VCD) - *Branding: Designing for the Consumer's Perception* | **ArtStreet Studio C, 2:00-2:40**
- Sisomak, Peter M (PSY) - *Put Your Money Where Your Mouth is: Feedback Reduces Overconfidence When Betting* | **RecPlex, 11:00-12:30**
- Skarbek, Joseph E (ACC, FIN) - *Relative Strength, Sector Weighting, and Sector Returns: A Portfolio Analysis for the Period 2008-2012* | **RecPlex, 9:00-10:30**
- Skura, Brian W (MCM) - *Temporal Analysis of Behavior of Male and Female Lucilia sericata Blow Flies Using Videography* | **RecPlex, 11:00-12:30**
- Smidt, Alec M (SOC, PSY, WGS) - *Beyond 1 in 4: Predictors and Prevalence of Sexual Violence Victimization* | **St. Joseph's Hall 013, 1:00-2:00**
- Smith, Alyssa C (ENG) - *Child Abuse and the Internet* | **RecPlex, 9:00-10:30**
- Smith, Carson M (CMM) - *Legal Issues Confronting the News Media Concerning Politics, Murder and Undercover Reporting* | **RecPlex, 9:00-10:30**
- Smith, Carson M (CMM) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Smith, Elizabeth J (CMM) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Smith, Geoffrey T (CEE) - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | **Kennedy Union East Ballroom, 2:30-3:30**
- Smith, Jasmine L. (CLP) - *A Proposed Study of Online Flirting* | **RecPlex, 11:00-12:30**
- Smith, Jill M (ACC) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Smith, Nicholette T (PSY) - *The influence of self-esteem level on interpretation of ambiguous stimuli after a rejection experience* | **RecPlex, 11:00-12:30**
- Smith, Tyler K (PHY) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Smolik, James A (POL) - *Interest Groups, Money and Influence* | **LTC Studio, 2:30-3:30**
- Smoot, Senia I. (MEE) - *A Pilot Study of the Effect of an Acute Vestibular Therapy on Postural Stability and Gaze Patterns of Children with Autism Spectrum Disorder* | **RecPlex, 11:00-12:30**
- Smoot, Senia I. (MEE) - *Engineering Outreach at Children's Home Autism High School* | **RecPlex, 9:00-10:30**
- Snow, Nyssa L (CLP) - *Social Stigma, Homelessness, and Mental Illness: An Experimental Study* | **LTC Meeting Space, 2:00-2:20**
- Snyder, Ellen I (PSY) - *Perception of Non-physical Abuse in Intimate Partner Relationships* | **RecPlex, 11:00-12:30**
- Snyder, Ellen I (PSY) - *Using a Mental Rotation Task to Assess the Effect of Biasing Information on Overconfidence and Narcissism* | **RecPlex, 11:00-12:30**
- Somerser, Anne E (PSY) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Sorg, Patrick (BUS) - *Becoming a World Citizen through Studying Abroad* | **Miriam Hall 119 - O'Leary Auditorium, 1:00-2:00**
- Sousounis, Konstantinos (BIO) - *Differential Expression of Genes Between Dorsal and Ventral Iris Undergoing Lens Regeneration in Notopteryx alpestris Revealed by Next Generation RNA Sequencing* | **RecPlex, 11:00-12:30**
- Sowar, Philip W (OPS, ACC) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Sozio, Paul Andrew (ENT) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**
- Spech, Sarah E (SPN, ENG) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Splain, Zachary J (HST) - *Religion and Daily Life* | **Humanities 122, 4:00-5:00**
- Sprague, Aaron V (CME) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Sprock, Robyn Anne (EMS) - *Research on Instruction in p-12 Schools* | **RecPlex, 9:00-10:30**
- Stahl, Westin D (FIN, ECB, ALT) - *Capitalizing on Chaotic Currents: An Analysis of Algorithmic Trading Before and After the Global Financial Crisis* | **RecPlex, 11:00-12:30**
- Stanko, Bethany E (ECE) - *Advocating for Vulnerable Children* | **RecPlex, 9:00-10:30**
- Stefani, Steven J (PSY) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Steffensmeier, Andrew M (MED) - *Search for the modifiers of amyloid- $\beta$  mediated cell death in Drosophila eye* | **RecPlex, 11:00-12:30**
- Steve, Jessica E (FIM) - *Simulation of Nonlinear Waves Using Sinc Collocation-Interpolation* | **RecPlex, 11:00-12:30**
- Stoetzel, Ashley E (ECE) - *Teaching Methods, Strategies, and Procedures for English Language Learners in Early Childhood Education* | **RecPlex, 9:00-10:30**
- Stolz, Anastasia I (EVB) - *Qualitative Assessment of the Past and Present Geomorphological Processes Affecting Silver Lake in Miami County, Ohio* | **RecPlex, 11:00-12:30**
- Stretavski, Samantha R (INB, FIN) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Striebich, Emily K (ECB, MKT) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Stringer, Samantha J (MED) - *Defining the transcription factor genes and their target gene interactions for a model developmental and evolutionary trait* | **RecPlex, 11:00-12:30**
- Strong, Robert J (CME) - *Fundamental Mathematical Model for Direct Write Additive Manufacturing* | **RecPlex, 11:00-12:30**

## NAME - TITLE | LOCATION/TIME

- Stroyne, Laura E (CME) - *Improving reading Skills in Third Graders at Kiser Elementary* | **Marianist Hall Learning Space 218, 2:40-3:00**
- Struckman, Sarah R (ELE) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Stydnicki, Rachel M (CMM) - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 3:00-4:00**
- Stypula, Vincent O (FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Sullivan, Diane M - *UD Business Plan Competition: Insights from the Finalists* | **Miriam Hall 109, 11:00-12:00**
- Sullivan, Kevin M (BIO) - *Bioassessment of Outfall Water of the Mad River as well as Its Effects Downriver Using Aquatic Insects As Indicators* | **RecPlex, 11:00-12:30**
- Sulzer, Tara E (MEE) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Sutphin, Christian L (PSY) - *Effects of Sustained Attention on Auditory Displays, Mental Workload, and Stress* | **RecPlex, 11:00-12:30**
- Sutphin, Christian L (PSY) - *Detecting Critical Signals in Sustained Visual Attention Tasks Using Simulated Radar Screens* | **RecPlex, 11:00-12:30**
- Swartz, Ann Belle (EAH) - *Partnering for Success: The Effects of Formal Mentoring on Graduation and Transfer Rates Among African American Students in an Urban Community College* | **LTC Forum, 4:30-6:30**
- Syburg, Anna L (EYA) - *Research on the Conflict in Darfur* | **Kennedy Union 310, 2:00-3:00**
- Tare, Meghana (BIO) - *Domain specific function of Cullin-4 to promote cell survival in the ventral eye compartment in Drosophila* | **RecPlex, 11:00-12:30**
- Tare, Meghana (BIO) - *Study of the role of Cullin-4 function during organogenesis in the Drosophila melanogaster eye.* | **Kennedy Union 211, 1:20-1:40**
- Taylor, Gillian Claire (MUE) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Tenca, Zachary E (ELE) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- Terrano, Joseph A. (CME) - *Modeling Complex Distillation Columns for Ternary Mixtures* | **RecPlex, 11:00-12:30**
- Tetelman, Daniel M (FIN, ACC) - *Social Justice Club Poster Presentation on Homelessness in Montgomery County* | **RecPlex, 9:00-10:30**
- Theobald, Andrew S (FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Thoennes, Stephen M. (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Ball Theatre, 8:30-12:30**
- Thomas, Caroline M (ENG, VAR) - *Elegant's Wake* | **Marianist Hall Learning Space Commons, 3:00-4:00**
- Thomas, Jessica (ACC, FIN) - *Projecting Stock Price Movements with Fair Value Analysis* | **RecPlex, 9:00-10:30**
- Thomas, Joseph M (MIS) - *DP & L Asset Tracking System* | **Miriam Hall 207, 3:40-4:10**
- Thomas, Leighann M (POL, ECO) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Thomas, Margaret A (HST) - *Corruption in Southeast Asia: An Analysis of Contributing Factors* | **RecPlex, 9:00-10:30**
- Thomas, Robert P (POL) - *Economic Success In Southeast Asia* | **St. Joseph's Hall 231, 4:00-4:20**
- Thomas, Sarah C (EVA) - *Research on Student Achievement in p-12 Schools* | **RecPlex, 9:00-10:30**
- Thomas, Sierra L (PSY) - *Sibling Rivalry or Sibling Abuse?* | **ArtStreet Studio C, 3:00-3:40**
- Thomas, Sierra L (PSY) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Thompson, Imanii M (MUS) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Thompson, Rebecca - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Tiddall, Wesley D. (EVb, UET) - *The Origin and Possible Role Of L-dopa Containing Proteins in Biomineralization Processes* | **RecPlex, 11:00-12:30**
- Tiddall, Wesley D. (EVb, UET) - *Qualitative Assessment of the Past and Present Geomorphological Processes Affecting Silver Lake in Miami County, Ohio* | **RecPlex, 11:00-12:30**
- Tobert, Ephraim D. (MED) - *UV-induced photodegradation of beta-carotene in hexane solvent* | **RecPlex, 11:00-12:30**
- Tolson, Shea M. - *Using a Mental Rotation Task to Assess the Effect of Biasing Information on Overconfidence and Narcissism* | **RecPlex, 11:00-12:30**
- Tomaselli, Karl R (VCD) - *Branding and Conceptual Design for Smorgasburger Food Truck* | **ArtStreet Studio E, 1:00-5:00**
- Tondo-Steele, Jacquelyn A (PSY) - *Advocating for Vulnerable Children* | **RecPlex, 9:00-10:30**
- Tong, Yuxuan (MEE) - *Four-bar Linkage Synthesis for A Combination of Motion and Path-point Generation* | **RecPlex, 11:00-12:30**
- Torch, Marc Carl (ENT, OPS) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**
- Torres, Emilio Tejuene (MCT) - *Development of Greenhouse for Disabled Farmers* | **RecPlex, 9:00-10:30**
- Torrez, Amanda R (SOC) - *Enrollment Rates of Latino/as in Higher Education with a Focus on Mexican Americans* | **St. Joseph's Hall 023, 2:00-3:00**
- Trifiletti, Anthony M (MUP) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Trifiletti, Anthony M (MUP) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Tschantz, Cody C (MEE) - *Sibling Rivalry or Sibling Abuse?* | **ArtStreet Studio C, 3:00-3:40**
- Tsiribas, Dimitrios G (FIN) - *Using Normalized P/E Ratios to Project Future Stock Price Movement* | **RecPlex, 9:00-10:30**
- Tumbush, Michael J. (CEE, UEG) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Ball Theatre, 8:30-12:30**
- Tuohy, Ryan J (PSY) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Ulintz, Alexander J (MED, GER) - *The Role of Mycolactone in Suppression of the Innate Immune Response and Alteration of Aquatic Biofilm Metabolic Profiles: Implications for Buruli Ulcer Disease* | **Kennedy Union 311, 1:40-2:00**
- Ullery, Olivia J (WGS, ENG) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Underwood, Carrie R (PSY) - *Is Chivalry Really Dead? It Depends on When You Ask: Women's Reception of Benevolent Sexism Changes Across the Menstrual Cycle* | **RecPlex, 11:00-12:30**
- Urban, Andrew C (SOC) - *Health Inequality and the Racial Minority Experience* | **St. Joseph's Hall 023, 4:00-5:00**
- Van Tiem, Alex H (ENT, FIN) - *Using Normalized P/E Ratios to Project Future Stock Price Movement* | **RecPlex, 9:00-10:30**
- Van Wallegheem, Sarah A (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- VanAtta, Rachel R (BCM) - *An Electrochemical Study of L-3,4-dihydroxyphenylalanine (L-dopa)* | **RecPlex, 11:00-12:30**
- VanLoon, Alexandra M (SPN, RNS) - *Linguistic Factors Affecting the Social Status of the Hispanic Immigrant Population in Dayton, OH* | **RecPlex, 11:00-12:30**
- Varricchio, Allison M (MED, POL, HRS) - *The Impact of Female Peacekeepers on Culture and Gender* | **Kennedy Union Torch Lounge, 1:00-2:00**
- Varricchio, Allison M (MED, POL, HRS) - *Peacemakers: Women of Liberia* | **Kennedy Union Torch Lounge, 1:00-4:00**
- Varricchio, Allison M (MED, POL, HRS) - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 2:00-3:00**
- Varricchio, Allison M (MED, POL, HRS) - *A Voice for the Marginalized: Analyzing the impact of gender mainstreaming initiatives on lives of rural women in the Republic of Malawi* | **St. Joseph's Hall 221, 3:20-3:40**
- Vaughn, Sarah L - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Velky, Jordan E (BIO) - *Red Light, Green Light: A Novel Approach to Study Interactions between Enhancers and Gene Promoters* | **RecPlex, 11:00-12:30**
- Velky, Jordan E (BIO) - *A Characterization of Regulatory Linkages in a Genetic Network for a Derived Fruit Fly Trait.* | **RecPlex, 11:00-12:30**
- Verghese, Shilpi (BIO) - *Scribble acts in the Drosophila Fat-Hippo pathway to regulate Warts activity* | **RecPlex, 11:00-12:30**
- Verghese, Shilpi (BIO) - *Functional and Genetic Analysis of Compensatory Responses Induced in Tumors Caused by Loss of Scribble (apical-basal polarity).* | **RecPlex, 11:00-12:30**
- Verghese, Shilpi (BIO) - *Genetic Interaction of Discs-large [Dlg] with Hippo Signaling Pathway* | **RecPlex, 11:00-12:30**
- Verghese, Shilpi (BIO) - *The regulation of Drnc by Hippo Pathway* | **Kennedy Union 211, 2:00-2:20**
- Verghese, Shilpi (BIO) - *Genetic Interaction of runxB with Hippo Signaling Pathway* | **Kennedy Union 211, 2:20-2:40**
- Verghese, Shilpi (BIO) - *Differential Hippo signaling in Compensatory Proliferation in a Drosophila Tumor Model* | **Kennedy Union 211, 2:40-3:00**
- Verghese, Shilpi (BIO) - *Analysis of Yorkie activity in scribble mutant cells challenged with different cellcompetitive environments* | **Kennedy Union 211, 3:00-3:20**
- Veselik, Brent R (ECO, POL) - *The Progression of Human Trafficking Laws on a National Level* | **RecPlex, 9:00-10:30**

# STUDENT INDEX

## NAME - TITLE | LOCATION/TIME

- Vicar, Nathan R (CMM) - *Slavery: How the Chains Remain Attached Today* | **RecPlex, 9:00-10:30**
- Vidic, Zachary J (PSY) - *Using a Mental Rotation Task to Assess the Effect of Biasing Information on Overconfidence and Narcissism* | **RecPlex, 11:00-12:30**
- Viertel, Mary H (ACC, FIN) - *Portfolio Investment and Weighting Strategies for High Quality Stocks 2008 to 2011: A Study in Portfolio Management* | **RecPlex, 9:00-10:30**
- Violante, Nora C (PSY) - *Advocating for Vulnerable Children* | **RecPlex, 9:00-10:30**
- Visser, Joel Francis (UEG) - *Infant Cause and Effect Toy for Bombeck Family Learning Center* | **RecPlex, 9:00-10:30**
- VonDrasek, Lisa C (LDR, ENT) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**
- Vucovich, Emily E (MED) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**
- Waag, Catherine (NON, GEN) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Waghmare, Indrayani (BIO) - *Scribble acts in the Drosophila Fat-Hippo pathway to regulate Warts activity* | **RecPlex, 11:00-12:30**
- Waghmare, Indrayani (BIO) - *Functional and Genetic Analysis of Compensatory Responses Induced in Tumors Caused by Loss of Scribble (apical-basal polarity)*. | **RecPlex, 11:00-12:30**
- Waghmare, Indrayani (BIO) - *Genetic Interaction of Discs-large [Dlg] with Hippo Signaling Pathway* | **RecPlex, 11:00-12:30**
- Waghmare, Indrayani (BIO) - *Genetic Interaction of runxB with Hippo Signaling Pathway* | **Kennedy Union 211, 2:20-2:40**
- Waghmare, Indrayani (BIO) - *Differential Hippo Signaling in Compensatory Proliferation in a Drosophila Tumor Model* | **Kennedy Union 211, 2:40-3:00**
- Waghmare, Indrayani (BIO) - *Analysis of Yorkie activity in scribble mutant cells challenged with different cellcompetitive environments* | **Kennedy Union 211, 3:00-3:20**
- Wagner, Christopher V (MEE) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Wagner, Jerrold N (EMS, UNA) - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Wagner, Peter G - *Becoming a World Citizen through Studying Abroad* | **Miriam Hall 119 - O'Leary Auditorium, 1:00-2:00**
- Waldock, Christopher J (FIN, ECB) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Walk, Casey T (EPT, MED) - *Temporal Analysis of Behavior of Male and Female Lucilia sericata Blow Flies Using Videography* | **RecPlex, 11:00-12:30**
- Walker, Krista P (CMM, PHO) - *Department of Visual Arts, Senior Capstone Projects in Photography* | **ArtStreet Studio B, 2:30-4:30**
- Walker, Krista P (CMM, PHO) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Wallace, Andrew T (BIO, CJS) - *Motor Vehicle Crimes and Victimization at the University of Dayton* | **St. Joseph's Hall 013, 9:00-10:00**
- Walsh, Laura M (EIS) - *Advocating for Vulnerable Children* | **RecPlex, 9:00-10:30**
- Walters, Emily M (ENG) - *The Importance of Teacher Response to ELL Student Writing: TAs and IEP Instructors* | **Humanities 118, 1:00-1:40**
- Walton, Mollie M (BIO) - *Assessing the Effect of Shear Stress on AQP1 Expression in Vascular Endothelial Cells in vitro*. | **RecPlex, 11:00-12:30**
- Wang, Chen (OPS, INB, ENG) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 1:00-2:00**
- Wang, Yihong (FIN, OPS, INB) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Ward, Mike J. (CEE, MEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Ball Theatre, 8:30-12:30**
- Watson, Erica N (BIO) - *Succession and Female Gravid Status of Chrysoyoma ruffiacis and Cochlioniya macellaria on Carrion* | **RecPlex, 11:00-12:30**
- Watson, Jordan Taylor (GEO) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Weber, Riley Catherine (EIS) - *Research on Student Achievement in p-12 Schools* | **RecPlex, 9:00-10:30**
- Wedell, Margaret A (PSY) - *Do Measures of Ocular Gaze Correlate with Subjective Ratings in Assessing Aesthetic Preferences for Faces?* | **RecPlex, 11:00-12:30**
- Welch, Emily D (CMM) - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 1:00-2:00**
- Welch, Rebecca E (PSY, MUT) - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Welch, Rebecca E (PSY, MUT) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Welch, Rebecca E (PSY, MUT) - *Minimalism: The Music and Influence of Steve Reich on Percussion Music, Composition, and Performance* | **Sears Recital Hall, 3:30-4:30**
- Wellman, Jessica L (MUT) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Welsh, John S (EYA, ERL) - *Research on Private p-12 Schools in the United States* | **RecPlex, 9:00-10:30**
- Wendling, Maria C (PSY) - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 1:00-2:20**
- Wetzel, Elizabeth C (BIO) - *Membrane trafficking of aqaglyceroporin HC-3 in erythrocytes from the freeze tolerant anuran, Copé's gray treefrog, Hyla chrysoscelis* | **RecPlex, 11:00-12:30**
- Wetzel, Elizabeth C (BIO) - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Wetzel, Elizabeth C (BIO) - *The History and Implications of Child Sexual Abuse in the United States* | **LTC Team Space, 3:00-3:40**
- Whelchel, Meredith A (CMM) - *Assessing Appellate Courts' Definitions of Elements in Libel Law* | **RecPlex, 9:00-10:30**
- Whitaker, Amy N (MED) - *Podcast/UPodcast: You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**
- White, Rachel K (EMS) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Wiechart, John T. (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Ball Theatre, 8:30-12:30**
- Wilczynski, Daniel J (CME) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**
- Wihelms, Emily Marie (PSY) - *Child and Family Influences on Parent's Utilization of Children's Mental Health Services* | **RecPlex, 11:00-12:30**
- Wille, Philip T (CME) - *Rates of Corrosion of Various Metals in a Modified B117 Chamber and Their Correlation to Field Data* | **RecPlex, 11:00-12:30**
- Williams, Sarah A (EYA, UED, HST) - *Changing Cultural Frameworks* | **Humanities 122, 2:00-3:00**
- Wilson, Olivia J (CJS, PSY) - *Human Trafficking: The Aftermath* | **St. Joseph's Hall 013, 3:00-4:00**
- Winslow, Molly R (SOC) - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 2:00-3:00**
- Winters, Rebecca C (UNA, CJS) - *The Rise of School Shootings and the Fall of American Morality* | **St. Joseph's Hall 023, 1:00-1:20**
- Winters, Rebecca C (UNA, CJS) - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 1:00-4:15**
- Withrow, Vicki L - *11th Annual Integration Bee, Mathematics* | **Science Center 255 - Chudd Auditorium, 1:00-3:00**
- Withrow, Vicki L - *Integration Bee Lunch, Department of Mathematics* | **Science Center Atrium, 12:00-1:00**
- Witkorn, Erika L (BIO) - *A Drosophila Eye Model to Study the Role of the Dorsal-ventral (DV) Patterning Genes in Growth and Cancer* | **RecPlex, 11:00-12:30**
- Wolpert, Margaret R (EIS) - *Exposing Nike: Team Sweat* | **RecPlex, 9:00-10:30**
- Wombwell, Jim V (CMM) - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 1:00-3:00**
- Woods, Brandon A (MUP) - *Honors Recital Auditions* | **Sears Recital Hall, 1:00-3:00**
- Woolf, Megan J (EYA, ENG) - *Research on Roles and Practices that Engage Multiple Stakeholders in p-12 Schools* | **RecPlex, 9:00-10:30**
- Woomer, Michael R (POL) - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Wright, Alexandra Nicole (BIO) - *Outfall water quality assessments of the major rivers of Dayton, Ohio* | **RecPlex, 11:00-12:30**
- Wright, Andrew T (GEO) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Wright, Kyle W (CEE) - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Ball Theatre, 8:30-12:30**
- Wurm, Jarrod J (MCM) - *Reducing Technology Use on Campus: An Experiment* | **Marianist Hall Learning Space 218, 2:00-2:20**
- Xavier, Michael A (ESM) - *Analyzing and Comparing State Legislation and High School Association Regulations Regarding the Management of Concussions* | **Marianist Hall Learning Space 218, 1:00-1:20**
- Xu, Ying (ECT) - *Ingrid Photovoltaic Solar Panel System* | **RecPlex, 9:00-10:30**
- Yacovoni, Erin M (EMS) - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Yaeger, Paige Nicole (MEE) - *Infant Cause and Effect Toy for Bombeck Family Learning Center* | **RecPlex, 9:00-10:30**



## NAME - TITLE | LOCATION/TIME

Yang, Zhenyu (ELE) - *Smartphone Based Optical Sensor* | **LTC Meeting Space, 1:00-1:20**

Yankowitz, Jacob Ramon (MED) - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**

Yorka, Elizabeth A (MTE) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**

Yoss, Steven M (GEO) - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**

You, Ya (EAH) - *Understanding Chinese students in a Global Context* | **LTC Forum, 4:30-6:30**

Yu, Jieyao (ECB, FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**

Zaharko, Samuel L (UEG) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**

Zampino, Maria M (FIN, ENT) - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 1:00-2:00**

Zhang, Chen (ELE) - *Towards A "Self-Tuning" Camera* | **Kennedy Union 311, 2:20-3:00**

Zhang, Hang (RCL) - *Workshop coordinator for the Energy Efficient Manufacturing Program, Summer 2012 in Suzhou, China* | **Kennedy Union 310, 3:30-4:30**

Zhang, Wujian (BIO) - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 1:00-3:00**

Zhang, Yi (ELE) - *Blur Processing Using Double Discrete Wavelet Transform* | **Kennedy Union 311, 2:00-2:20**

Zhou, Yuan (PSY) - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 1:00-2:00**

Zidek, Daniel J (ENT, OPS) - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**

Ziegler, Aj P (ECB, FIN) - *How Markets Fail: Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-4:00**

Zimmerman, Mark A (CMM, ENT) - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | **Miriam Hall 109, 1:00-2:00**

Zimmerman, Mark A (CMM, ENT) - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 2:20-3:20**



## NAME - TITLE | LOCATION/TIME

- Abd El Razeq, Abd El Nasser A - *Train, Test, Send out the Best: Teaching styles and student achievement among military training* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *The Graying and the Disgruntled: A Needs Assessment of Associate Professors* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Student Perceptions of Service Club Success* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Understanding Chinese students in a Global Context* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Partnering for Success: The Effects of Formal Mentoring on Graduation and Transfer Rates Among African American Students in an Urban Community College* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Bridging the Gap: Identity Crises and Self-Authorship of Veterans in Higher Education* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *The Jury's Still Out: Cognitive Development of First-Year Law Students* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *The Impact of Advisors on Student Organizations* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Decisions, Decisions, Decisions: How Undecided, Second Year Students in the College of Arts and Sciences Engage in the Decision Making Process of Choosing a Major* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Veterans Voices: Veteran Success in Higher Education* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Learning Outside of the Walls: Extra Curricular Activities and Student learning* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Leadership Identity Development of LGBT-Identifying Students* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Warm-Ups to Business Suits: Identity development of female student-athletes at the University of Dayton* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Make it or Break It, You've Only Got Six Weeks: The Effectiveness of a College Readiness Program at For-Profit Colleges* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Not a Family Tradition: First-generation College Student Success* | **LTC Forum, 16:30-18:30**
- Abd El Razeq, Abd El Nasser A - *Students as Employees & Participants: The Developmental Effects of Intramural Sports* | **LTC Forum, 16:30-18:30**
- Abueida, Atif A - *Generalized Multi-latin Squares* | **RecPlex, 11:00-12:30**
- Ahoujja, Mohamed - *Detecting Changes in the Earth's Magnetic Field* | **RecPlex, 11:00-12:30**
- Ambrosius, Joshua - *Megachurch-Based Regionalism: Exploring the Practices of Urban-Suburban Partnerships, Regional Branch Campuses, and Regional Church Plants* | **St. Joseph's Hall 221, 16:00-16:20**
- Amin, Julius A - *Education for a Global Community: UD's African Immersion Experience Program* | **Kennedy Union 331, 15:00-16:30**
- Apolito, Timothy F - *Sandy Hook Elementary School Shooting as a Tipping Point for Gun Policy Reform in the United States* | **St. Joseph's Hall 013, 15:00-16:00**
- Apolito, Timothy F - *Perceptions of Sexual Behavior For the Exchange of a Benefit by College Students: The Depiction of Reality* | **St. Joseph's Hall 013, 13:00-14:00**
- Apolito, Timothy F - *Smart Policing: How Dayton Deals With Violent Street Groups* | **St. Joseph's Hall 013, 14:00-15:00**
- Apolito, Timothy F - *The Rise of School Shootings and the Fall of American Morality* | **St. Joseph's Hall 023, 13:00-13:20**
- Asari, Vijayan K - *Multi-Scale Local Fourier Phase Based Feature Learning for Single Image Super Resolution* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Intrusion Detection on Oil Pipeline Right of Way (ROW) using Monogenic Signal Representation* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Enhancement of Images Captured in Complex Lighting Environments for Visual Quality Improvement* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *An Automatic and Locally Tunable Transformation Function for Fog and Haze Removal in Aerial Imagery* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Water Body Segmentation in Aerial Imagery* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Robust Artificial Intelligence-based Defense Electro Robot (RAIDER)* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Automatic Scene Rendering for Unmanned Aerial Systems* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Pose Invariant Face Recognition and Tracking for Human Identification* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Image Registration, Moving Object Detection and Tracking in Wide Area Motion Imagery* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Extracting Context Information from Aerial Imagery for Aiding Threat Detection* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Analysis of EEG Signals for the Recognition of Emotional States* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Facial Expression Analysis* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *Brain Machine Interface Using Electroencephalograph Data as Control Signals for a Robotic Arm* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *EEG Action Encoding* | **RecPlex, 11:00-12:30**
- Asari, Vijayan K - *An Automatic Visibility Improvement and Object Detection System for Wide Area Surveillance Applications* | **Kennedy Union 207, 13:00-13:40**
- Asari, Vijayan K - *Regression based Learning of Human Actions from Video using Histogram of Flow and Local Binary Flow Patterns* | **Kennedy Union 207, 13:40-14:00**
- Asari, Vijayan K - *Video Segmentation for Automatic Extraction of Human Body Region for Action and Activity Recognition* | **Kennedy Union 207, 14:00-14:20**
- Asari, Vijayan K - *Wide Area Surveillance for Security Automation* | **Kennedy Union 207, 14:20-14:40**
- Asari, Vijayan K - *Detection of Whale Blows in Infrared Video* | **Kennedy Union 207, 14:40-15:00**
- Banerjee, Partha P - *Bidirectional Beam Propagation Method for Second-Harmonic Generation in Engineered Multilayer Photonic Bandgap Structures* | **RecPlex, 11:00-12:30**
- Banerjee, Partha P - *Nonlinearly Induced Refractive Index Measurements by Using a Probe Beam* | **RecPlex, 11:00-12:30**
- Barker, Rachel E - *The invasive shrub Amur honeysuckle (Lonicera maackii) influences nutrient dynamics in headwater streams* | **RecPlex, 11:00-12:30**
- Barklay, Chadwick D - *Development of a Sublimation-Inhibitive Coating for TAGS-85 Thermoelectric Material* | **RecPlex, 11:00-12:30**
- Barrios, Joaquin A - *Mechanical Effectiveness of a Combined Gait Modification Strategy to Reduce Knee Adduction Moment: Increasing Trunk Lean and Foot Progression Angle* | **Kennedy Union 312, 13:00-13:20**
- Bauer, John J - *Perfectionism: Good, Bad, or Growth?* | **RecPlex, 11:00-12:30**
- Becker, Paul J - *The Impact of Using Live Animals Mascots at Universities* | **St. Joseph's Hall 013, 9:00-10:00**
- Becker, Paul J - *Motor Vehicle Crimes and Victimization at the University of Dayton* | **St. Joseph's Hall 013, 9:00-10:00**
- Benbow, Mark E - *Impact of Amur Honeysuckle (Lonicera maackii) Leachate on Culex pipiens Survivorship, Growth, and Pupation* | **RecPlex, 11:00-12:30**
- Benbow, Mark E - *A riparian forest invader, alters cross-system subsidies that change ecosystem processes* | **RecPlex, 11:00-12:30**
- Benbow, Mark E - *A Year-Long Study of Carrion, Insects, and Scavengers* | **RecPlex, 11:00-12:30**
- Benbow, Mark E - *Succession and Female Gravid Status of Chrysomya rufifacies and Cochliomyia macellaria on Carrion* | **RecPlex, 11:00-12:30**
- Benbow, Mark E - *A Functional Key to the Stream Benthic Macroinvertebrates of the Republic of Palau* | **RecPlex, 11:00-12:30**
- Benbow, Mark E - *Outfall water quality assessments of the major rivers of Dayton, Ohio* | **RecPlex, 11:00-12:30**
- Benbow, Mark E - *Using Epinecrotic Biofilms for Applications in Forensic Science* | **RecPlex, 11:00-12:30**
- Benbow, Mark E - *Bioassessment of Outfall Water of the Mad River as well as its Effects Downriver Using Aquatic Insects As Indicators* | **RecPlex, 11:00-12:30**
- Benbow, Mark E - *The Role of Mycolactone in Suppression of the Innate Immune Response and Alteration of Aquatic Biofilm Metabolic Profiles: Implications for Buruli Ulcer Disease* | **Kennedy Union 311, 13:40-14:00**
- Benin, Vladimir A - *Preparation of some new epoxy-functionalized phosphonate and phosphate esters as reactive flame retardants for polyurethane* | **RecPlex, 11:00-12:30**
- Bennett, Jana M - *Reducing Technology Use on Campus: An Experiment* | **Marianist Hall Learning Space 218, 14:00-14:20**
- Bennett, Jana M - *Enhancing Campus Climate* | **Marianist Hall Learning Space 218, 14:20-14:40**
- Bennett, Jana M - *Improving reading Skills in Third Graders at Kiser Elementary* | **Marianist Hall Learning Space 218, 14:40-15:00**
- Berney, Rex L - *Detecting Changes in the Earth's Magnetic Field* | **RecPlex, 11:00-12:30**
- Bigelow, Kimberly E - *A Pilot Study of the Effect of an Acute Vestibular Therapy on Postural Stability and Gaze Patterns of Children with Autism Spectrum Disorder* | **RecPlex, 11:00-12:30**
- Bigelow, Kimberly E - *Effect of Compliant Flooring on Postural Stability in an Older Adult Population* | **RecPlex, 11:00-12:30**
- Bilcokercowicz, Jaro M - *Challenges facing Russia, Ukraine, and the New States* | **St. Joseph's Hall 025, 13:00-16:15**
- Birdsong, Daniel R - *Issues and American Public Opinion* | **St. Joseph's Hall 221, 13:00-15:00**

# ADVISOR INDEX

## NAME - TITLE | LOCATION/TIME

- Blust, Rebecca P - *Facade Improvement Program - City of Dayton* | **RecPlex, 9:00-10:30**
- Blust, Rebecca P - *Ingrid Photovoltaic Solar Panel System* | **RecPlex, 9:00-10:30**
- Blust, Rebecca P - *Development of Greenhouse for Disabled Farmers* | **RecPlex, 9:00-10:30**
- Blust, Rebecca P - *Emerson Climate Technologies Patent Improvement Project* | **RecPlex, 9:00-10:30**
- Brockman, Robert A - *Evaluation of Multiaxial Fatigue Models for Ti-6Al-4V* | **RecPlex, 11:00-12:30**
- Brown, Mark R - *The Impact of Social Awareness, Empathy, and Confidence on Blindness to Change in Facial Emotions* | **RecPlex, 11:00-12:30**
- Buchanan, Dennis J - *Evaluation of Multiaxial Fatigue Models for Ti-6Al-4V* | **RecPlex, 11:00-12:30**
- Budabin, Alexandra - *Research on Conflict in Darfur* | **RecPlex, 9:00-10:30**
- Budabin, Alexandra - *The Role of Non-State Actors in Congo* | **Kennedy Union 310, 13:00-14:00**
- Budabin, Alexandra - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 14:00-15:00**
- Budabin, Alexandra - *Research on the Conflict in Darfur* | **Kennedy Union 310, 14:00-15:00**
- Burky, Albert J - *A Functional Key to the Stream Benthic Macroinvertebrates of the Republic of Palau* | **RecPlex, 11:00-12:30**
- Busch, Arthur H - *11th Annual Integration Bee, Mathematics* | **Science Center 255 - Chudd Auditorium, 13:00-15:00**
- Busch, Arthur H - *Integration Bee Lunch, Department of Mathematics* | **Science Center Atrium, 12:00-13:00**
- Carrillo, Albino - *And It Rained All Night: Writing About the Great Dayton Flood of 1913* | **ArtStreet Studio C, 13:00-13:20**
- Cassiman, Shawn A - *Advocating for Vulnerable Children* | **RecPlex, 9:00-10:30**
- Cassiman, Shawn A - *After the Abuse* | **RecPlex, 9:00-10:30**
- Cassiman, Shawn A - *What YOU can do: Human Trafficking and the impact we as students can have on this issue.* | **RecPlex, 9:00-10:30**
- Cassiman, Shawn A - *Child Abuse and the Internet* | **RecPlex, 9:00-10:30**
- Cassiman, Shawn A - *The University of Dayton: A Living Wage?* | **St. Joseph's Hall 023, 16:00-17:00**
- Cassiman, Shawn A - *Hearing the Voices of the People: Community Perceptions of Coal Mining* | **St. Joseph's Hall 023, 15:00-16:00**
- Cassiman, Shawn A - *The History and Implications of Child Sexual Abuse in the United States* | **LTC Team Space, 15:00-15:40**
- Cassiman, Shawn A - *Sibling Rivalry or Sibling Abuse?* | **ArtStreet Studio C, 15:00-15:40**
- Chase, Donald V - *Civil Engineering 2013 Capstone Design Presentation: Goodwill Easter Seals Regional Headquarters* | **Kennedy Union Boll Theatre, 8:30-12:30**
- Chelle, Robert F - *The Sophomore Entrepreneurial Experience Course* | **Miriam Hall 214, 13:00-14:00**
- Chenoweth, Richard K - *The Historical Horn: A Digital Resource Guide to Rare and Historical French Horn Recordings and Performers* | **Kennedy Union 207, 16:00-16:20**
- Church, Kevin M - *Ts7 Regulation of Intestinal Nutrient Absorption and Adaptation in Short Bowel Syndrome* | **RecPlex, 11:00-12:30**
- Ciric, Amy R - *Modeling Complex Distillation Columns for Ternary Mixtures* | **RecPlex, 11:00-12:30**
- Collier, Trevor C - *City of Dayton Economic Development Incentive Programs: Costs and Benefits* | **RecPlex, 11:00-12:30**
- Collier, Trevor C - *Poverty Alleviation in Malawi: An Investigation into the Challenges Faced by Microfinance Institutions* | **Miriam Hall 214, 16:10-16:40**
- Comfort, Donald A - *Development of a Sublimation-Inhibitive Coating for TAGS-85 Thermoelectric Material* | **RecPlex, 11:00-12:30**
- Cox, Donna M - *Music Documentary Projects* | **LTC Forum, 10:30-12:00**
- Crosson, Garry - *Solid State NMR of Beryllium Exchanged Minerals: A Study of Beryllium in Clays and Soils* | **RecPlex, 11:00-12:30**
- Crosson, Garry - *Denatonium Sorption to Clay Minerals in Clay/Sand Mixtures: Should We Be Worried About This Compound?* | **RecPlex, 9:00-10:30**
- Crosson, Garry - *Synthesis and Characterization of Polyimides Containing Multi-benzonitrile Groups for Dielectric Applications* | **RecPlex, 11:00-12:30**
- Crosson, Kenya M - *Denatonium Benzoate Removal from Water Sources Using Oxidation with Chlorine* | **RecPlex, 11:00-12:30**
- Crosson, Kenya M - *Denatonium Sorption to Clay Minerals in Clay/Sand Mixtures: Should We Be Worried About This Compound?* | **RecPlex, 9:00-10:30**
- Daniels, Malcolm W - *Non-linear regulation of power quality within a microgrid consisting of multiple distributed generators (solar, wind, etc.)* | **RecPlex, 11:00-12:30**
- Daprano, Corinne M - *Analyzing and Comparing State Legislation and High School Association Regulations Regarding the Management of Concussions* | **Marianist Hall Learning Space 218, 13:00-13:20**
- Darrow, David W - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**
- Dasgupta, Simanti - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 14:00-15:00**
- Davis, Susan T - *Visual Cues used for Relative Distance Judgements in 2D Displays* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Do Measures of Ocular Gaze Correlate with Subjective Ratings in Assessing Aesthetic Preferences for Faces?* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *The Impact of Social Awareness, Empathy, and Confidence on Blindness to Change in Facial Emotions* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Effects of Sustained Attention on Auditory Displays, Mental Workload, and Stress* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Spatial Intelligence and Memory for Location in Athletes and Non-Athletes* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Using a Mental Rotation Task to Assess the Effect of Biasing Information on Overconfidence and Narcissism* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Detecting Critical Signals in Sustained Visual Attention Tasks Using Simulated Radar Screens* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Characteristics of Emotion for Paintings and Classical Music* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Aesthetic Evaluations and Emotional Responses Evoked by Paintings and Classical Music in Artists, Musicians, and Non-Experts* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Neural Correlates of Human Trust in Automation* | **RecPlex, 11:00-12:30**
- Davis, Susan T - *Put Your Money Where Your Mouth is: Feedback Reduces Overconfidence When Betting* | **RecPlex, 11:00-12:30**
- Davis-Berman, Jennifer - *Waiting to See What's Over the Hill: Developing a Better Understanding of Older Females in Retirement Care Facilities* | **St. Joseph's Hall 023, 15:00-16:00**
- Davis-Berman, Jennifer - *Express Yourself: The Relationship between Music and Depression in Yahoo! Answers* | **St. Joseph's Hall 023, 15:00-16:00**
- Dean, Robert D. - *Portfolio Investment and Weighting Strategies for High Quality Stocks 2008 to 2011: A Study in Portfolio Management* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *An empirical analysis of growth and value portfolio performance in the highly volatile market period 2008-2012; a study in portfolio management* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *Using Relative Valuation and Earnings Momentum to Measure the Returns to Stocks within Industry Groups* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *The Role of Safety and Risk in the Returns to Stocks in Volatile Markets* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *Relative Strength, Sector Weighting, and Sector Returns: A Portfolio Analysis for the Period 2008-2012* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *A Quantitative Approach to Selecting Industry Groups within Sectors for Investment: The Case for Relative Strength and Capture Ratio Analysis* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *Projecting Stock Price Movements with Fair Value Analysis* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *Using Normalized P/E Ratios to Project Future Stock Price Movement* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *Developing a Valuation Based Portfolio of Dow Jones Stocks* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *A Cross Sectional Analysis of Returns to S&P Industry Groups Over the Trading Range Period, 2011-2012.* | **RecPlex, 9:00-10:30**
- Dean, Robert D. - *An Overview of the Flyer Fund Security Selection Process* | **Miriam Hall 118 - Davis Center, 14:20-15:20**
- Dean, Robert D. - *An Overview of the Top-Down Investment Process for the Flyer Fund* | **Miriam Hall 118 - Davis Center, 15:40-16:40**
- DeMarco, George M - *The History of Physical Education-Activity and Sport: Stories for the Ages and Lessons from the Legends of Memorable Moments, Events, Trends, Tales, Phenomena, and Famous Women and Men: Their Teams and Times - Semester VII* | **RecPlex, 9:00-10:30**
- DeMarco, George M - *The Effectiveness of a Personalized Peer Physical Education Program the Health Related Physical Fitness, Diet, and Attitudes Toward Exercise/Diet of Selected College Students* | **RecPlex, 9:00-10:30**
- Dickey, Irene J - *The Procter & Gamble Marketing Challenge* | **Miriam Hall 214, 14:20-15:20**

## NAME - TITLE | LOCATION/TIME

- Dixon, Lee J - *Perception of Non-physical Abuse in Intimate Partner Relationships* | **RecPlex, 11:00-12:30**
- Dixon, Lee J - *A Proposed Study of Online Flirting* | **RecPlex, 11:00-12:30**
- Dodd, Gloria - *The Thought of Martin Luther on the Immaculate Conception of the Blessed Virgin Mary* | **LTC Team Space, 13:00-13:20**
- Dodd, Gloria - *Canisius vs. Luther: Their Fight over Mary in the Magnificat* | **LTC Team Space, 13:20-13:40**
- Doepker, Philip E - *Senior Capstone Project to develop a curriculum for an American Company in China that deals with controls for Industrial Automation.* | **Kennedy Union 310, 15:30-16:30**
- Doepker, Philip E - *Workshop coordinator for the Energy Efficient Manufacturing Program, Summer 2012 in Suzhou, China* | **Kennedy Union 310, 15:30-16:30**
- Doepker, Philip E - *Innovative Design and Entrepreneurship Team Project conducted at UDC in China* | **Kennedy Union 310, 15:30-16:30**
- Donaldson, Steven L - *Effect of Voids on Delamination Behavior Under Static and Fatigue Mode I and Mode II* | **RecPlex, 11:00-12:30**
- Ebeling, Charles E - *Assessment of Alternatives Effects and Choosing the Optimized Demand Response Capacity of Automatic Lighting System* | **RecPlex, 9:00-10:30**
- Egmeier, F Thomas - *Integrating Heart Rate and Eye Movement Measures as a Possible Robust Indicator of Workload in an Aviation Simulation Task* | **RecPlex, 11:00-12:30**
- Elhamri, Said - *Quantum Dot Formation Using Nano-patterned Planar InAs* | **RecPlex, 11:00-12:30**
- Elhamri, Said - *Infrared Transmission Spectroscopy of CVD graphene on Si<sub>3</sub>N<sub>4</sub> Asel, S. Elhamri; University of Dayton, Physics Department, Dayton, OH. Shin Mou, Gail J. Brown, and W. C. Mitchell; Air Force Research Laboratory, Materials & Manufacturing Directorate, Wright-Patt* | **RecPlex, 11:00-12:30**
- Elhamri, Said - *Sample Preparation Techniques for Transmission Electron Microscopy for Erbium Arsenide Metal Nano-Particles and Indium Arsenide Quantum Dot Structures, InAs/InGaAsSb Superlattice Structures, and Iron Oxides* | **RecPlex, 11:00-12:30**
- Enns, Harvey G - *DP & Asset Tracking System* | **Miriam Hall 207, 15:40-16:10**
- Enns, Harvey G - *Premier Health Partners Operating Room Dashboard* | **Miriam Hall 207, 14:20-14:50**
- Enns, Harvey G - *Speedway Pay Period Verification System* | **Miriam Hall 207, 14:50-15:20**
- Ensalaco, Mark - *Competing Responsibly: Are Businesses Appropriately Balancing the Motive of Profit with the Social Responsibility of Upholding Human Rights?* | **RecPlex, 11:00-12:30**
- Farrell, Dorie M - *Human Trafficking: The Aftermath* | **St. Joseph's Hall 013, 15:00-16:00**
- Farrell, Dorie M - *The Effects of the use of Force by Police Officers* | **St. Joseph's Hall 013, 16:00-17:00**
- Ferguson, Richard T - *Servant Leadership In Action: Connecting with Community as a Graduate Community Fellow* | **RecPlex, 11:00-12:30**
- Ferguson, Richard T - *Graduate Community Fellowship at Daybreak* | **RecPlex, 11:00-12:30**
- Ferguson, Richard T - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- Ferguson, Susan M - *The Themes of Catholic Social Teaching integrated into the work of UD's Center for Catholic Education's (CCE) Urban Child Development Resource Center (UCDRC)* | **RecPlex, 11:00-12:30**
- Ferguson, Susan M - *Research on Standardized Tests in p-12 Schools* | **RecPlex, 9:00-10:30**
- Ferguson, Susan M - *Research on Instruction in p-12 Schools* | **RecPlex, 9:00-10:30**
- Ferguson, Susan M - *Research on Roles and Practices that Engage Multiple Stakeholders in p-12 Schools* | **RecPlex, 9:00-10:30**
- Ferguson, Susan M - *Research on Student Achievement in p-12 Schools* | **RecPlex, 9:00-10:30**
- Ferguson, Susan M - *Research on the Relationship between Policy and Practice in p-12 Schools* | **RecPlex, 9:00-10:30**
- Ferguson, Susan M - *Research on Private p-12 Schools in the United States* | **RecPlex, 9:00-10:30**
- Forbis, Jeremy S - *Political Polarization and American Voters* | **St. Joseph's Hall 023, 15:00-16:00**
- Forbis, Jeremy S - *Patterns of Recidivism: Are Sex Offenders Going Back for Seconds?* | **St. Joseph's Hall 013, 13:00-14:00**
- Forbis, Jeremy S - *Refining the Visualization of Community Nutrition Environments: An Assessment of Multiple Methods of Geospatial Analysis in Dayton, Ohio, USA* | **St. Joseph's Hall 023, 16:00-17:00**
- Fouie, Daniel C - *Evaluation of Downtown Dayton Community Interest in a Local Foods Market* | **Kennedy Union 312, 16:00-16:20**
- Gardstrom, Susan C - *Eating Disorder Diagnoses and Treatments: The Impact of an Educational Symposium* | **RecPlex, 9:00-10:30**
- Geers, Jeffrey S - *Fidelity, Bravery, and Integrity: An Analysis of the Representations of FBI "G-Men" in Popular Media.* | **RecPlex, 9:00-10:30**
- Gold, Scott A - *Fundamental Mathematical Model for Direct Write Additive Manufacturing* | **RecPlex, 11:00-12:30**
- Goldman, Daniel - *Geologic History of the Earth* | **RecPlex, 9:00-10:30**
- Goldman, Daniel - *Ordovician Chitinozoan Biogeography and Paleogeology: Examining the Effect of Habitat on Species Longevities* | **RecPlex, 9:00-10:30**
- Goldman, Daniel - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Goodnight, Jackson A - *Parental Support and Anxiety among College Students: Differences by Sex-Specific Dyads* | **RecPlex, 11:00-12:30**
- Goodnight, Jackson A - *Delinquent Peer Relationships as a Mediator of the Differential Effects of Social Withdrawal and Behavioral Inhibition on Delinquency* | **RecPlex, 11:00-12:30**
- Goodnight, Jackson A - *Child and Family Influences on Parent's Utilization of Children's Mental Health Services* | **RecPlex, 11:00-12:30**
- Gorman, Michael F - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Gorman, Michael F - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 13:00-14:00**
- Gustafson, Elizabeth F - *An empirical analysis of growth and value portfolio performance in the highly volatile market period 2008-2012; a study in portfolio management* | **RecPlex, 9:00-10:30**
- Gustafson, Elizabeth F - *Using Relative Valuation and Earnings Momentum to Measure the Returns to Stocks within Industry Groups* | **RecPlex, 9:00-10:30**
- Gustafson, Elizabeth F - *The Role of Safety and Risk in the Returns to Stocks in Volatile Markets* | **RecPlex, 9:00-10:30**
- Gustafson, Elizabeth F - *Relative Strength, Sector Weighting, and Sector Returns: A Portfolio Analysis for the Period 2008-2012* | **RecPlex, 9:00-10:30**
- Gustafson, Elizabeth F - *A Quantitative Approach to Selecting Industry Groups within Sectors for Investment: The Case for Relative Strength and Capture Ratio Analysis* | **RecPlex, 9:00-10:30**
- Gustafson, Elizabeth F - *A Cross Sectorial Analysis of Returns to S&P Industry Groups Over the Trading Range Period, 2011-2012.* | **RecPlex, 9:00-10:30**
- Gustafson, Elizabeth F - *An Overview of the Top-Down Investment Process for the Flyer Fund* | **Miriam Hall 118 - Davis Center, 15:40-16:40**
- Hansen, Douglas C - *Low Alloy Steel Susceptibility to Stress Corrosion Cracking in Hydraulic Fracking Environment* | **RecPlex, 11:00-12:30**
- Hansen, Douglas C - *The Isolation and Purification of the Adhesive Proteins of the Blue Mussel, Mytilus edulis (L) using High Performance Liquid Chromatography (HPLC)* | **RecPlex, 9:00-10:30**
- Hansen, Douglas C - *Investigation and Testing of Corrosion Inhibiting Polyphenolic Proteins* | **RecPlex, 11:00-12:30**
- Hansen, Douglas C - *The Isolation and Purification of a Structural Polypeptide from the Ascidian Tunicate Styela plicata* | **RecPlex, 9:00-10:30**
- Hansen, Douglas C - *Rates of Corrosion of Various Metals in a Modified B117 Chamber and Their Correlation to Field Data* | **RecPlex, 11:00-12:30**
- Hansen, Douglas C - *An Electrochemical Study of L-3,4-dihydroxyphenylalanine (L-dopa)* | **RecPlex, 11:00-12:30**
- Hansen, Douglas C - *The Origin and Possible Role of L-dopa Containing Proteins in Biomineralization Processes* | **RecPlex, 11:00-12:30**
- Hansen, Douglas C - *Adsorption Behavior of Polyphenolic Proteins onto High Strength Steel (HY80) and 5083 Aluminum Alloys* | **RecPlex, 11:00-12:30**
- Hansen, Karolyn M - *The Origin and Possible Role of L-dopa Containing Proteins in Biomineralization Processes* | **RecPlex, 11:00-12:30**
- Hansen, Karolyn M - *Fabrication of Low-Cost Flow Cell and Tapered Optical Fibers for Aqueous Biosensing* | **RecPlex, 11:00-12:30**
- Hansen, Karolyn M - *Temporal Analysis of Behavior of Male and Female Lucilia sericata Blow Flies Using Videography* | **RecPlex, 11:00-12:30**
- Hansen, Karolyn M - *A Comparison of Common Diets for the Laboratory Culture of the Green Bottle Fly, Lucilia sericata* | **RecPlex, 11:00-12:30**
- Hansen, Karolyn M - *Ovary Staging Analysis of the Female Adult Blow Fly, Lucilia sericata* | **RecPlex, 11:00-12:30**
- Hansen, Karolyn M - *The Influence of Age, Sex, and Diet on Gustatory Behavioral Response in the Blow Fly, Lucilia sericata* | **Kennedy Union 222, 15:00-15:20**
- Hansen, Karolyn M - *Tapered Optical Fibers for Aqueous and Gaseous Phase Biosensing Applications* | **Kennedy Union 222, 16:00-16:20**
- Haritashya, Umesh K - *Climate-Glacier Relationship of Retreating Alaskan Glaciers* | **RecPlex, 11:00-12:30**
- Haritashya, Umesh K - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**

# ADVISOR INDEX

## NAME - TITLE | LOCATION/TIME

- Hart, Elizabeth S - *Infant Cause and Effect Toy for Bombeck Family Learning Center* | **RecPlex, 9:00-10:30**
- Hart, Elizabeth S - *The Introduction of Solar Technology in Porto de Moz, Brazil* | **RecPlex, 9:00-10:30**
- Hart, Patricia M - *Examining Literacy Practices Utilized to Support Latino Primary Aged Students that Respect Family and Culture* | **RecPlex, 9:00-10:30**
- Hartley, Linda A - *Music Technology in Secondary Music Education: Reaching the 80%* | **RecPlex, 9:00-10:30**
- Haus, Joseph W - *Tapered Optical Fibers for Aqueous and Gaseous Phase Biosensing Applications* | **Kennedy Union 222, 16:00-16:20**
- Hirakawa, Keigo - *Internet as Dictionary For Image Compression* | **RecPlex, 11:00-12:30**
- Hirakawa, Keigo - *Blur Processing Using Double Discrete Wavelet Transform* | **Kennedy Union 311, 14:00-14:20**
- Hirakawa, Keigo - *Towards A "Self-Tuning" Camera* | **Kennedy Union 311, 14:20-15:00**
- Holcomb, Jeanne A - *The Price for their Protection and Service: Domestic Violence in Police Families.* | **St. Joseph's Hall 013, 16:00-17:00**
- Holcomb, Jeanne A - *College Student Experiences of Bullying and the Role of Technology* | **St. Joseph's Hall 023, 14:00-15:00**
- Hong, Yiling - *Mutation Frequency in Mouse Embryonic Stem Cells After Exposure to Carbon Nanomaterials* | **RecPlex, 11:00-12:30**
- Huacuja, Judith L - *Album Familiar (The Family Album): A photographic and written history of two families, two cultures, one people* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Huacuja, Judith L - *Elegant's Wake* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Huacuja, Judith L - *Casualties of War: Iraq and the Destruction of a Culture* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Huacuja, Judith L - *A Retrospective of Dayton Artist Zachary Armstrong* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Huacuja, Judith L - *Photogeologic Altars* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Huacuja, Judith L - *Creative Healing: Using Art as Therapy* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Huacuja, Judith L - *Digital Education Processed through Arts Integration* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Hudson, Natalie F - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 14:00-15:00**
- Hudson, Natalie F - *Peacemakers: Women of Liberia* | **Kennedy Union Torch Lounge, 13:00-16:00**
- Hudson, Natalie F - *The Impact of Female Peacekeepers on Culture and Gender* | **Kennedy Union Torch Lounge, 13:00-14:00**
- Ingram, Jefferson L - *Cadets and the Campus Community: The Impact of ROTC on Students at the University of Dayton.* | **St. Joseph's Hall 013, 10:00-11:00**
- Ingram, Jefferson L - *Is the Juice Worth the Squeeze: The Sociological Implications of Steroid Use in Major League Baseball* | **St. Joseph's Hall 013, 10:00-11:00**
- Jablonski, Leanne M - *UD and the Catholic Climate Covenant: Exploring A Marianist Stance on Environmental Issues* | **Kennedy Union East Ballroom, 14:30-15:30**
- Jackson, Kurt J - *Effect of Compliant Flooring on Postural Stability in an Older Adult Population* | **RecPlex, 11:00-12:30**
- Janney, Jay J - *The UD-SBA Flyer Angels Fund: Student Insights on being Business Angels, and making High-Tech Private Equity Investments* | **Miriam Hall 109, 13:00-14:00**
- Janney, Jay J - *The SOE-SBA Entrepreneurship Collaboration: High-Tech Innovation Projects and Insights from SBA Students on their Experiences* | **Miriam Hall 109, 14:20-15:20**
- Jennings, Glenna - *Photogeologic Altars* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Jennings, Glenna - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 14:00-15:00**
- Jipson, Arthur J - *Peremptory Challenges: The History and its Effect on Legal Professionals in Montgomery County, Ohio* | **RecPlex, 11:00-12:30**
- Jipson, Arthur J - *Private versus Public: An examination of the Juvenile Justice System.* | **St. Joseph's Hall 013, 11:00-12:00**
- Jipson, Arthur J - *The Impact of Using Live Animals Mascots at Universities* | **St. Joseph's Hall 013, 9:00-10:00**
- Jipson, Arthur J - *An Exploration of the Understanding of Rap and Hip-Hop Among University of Dayton Students* | **St. Joseph's Hall 013, 10:00-11:00**
- Jipson, Arthur J - *Internet Identity, Community, and The Common Academic Program: Discussion of the Internet Community Crossing Boundaries Course* | **LTC Meeting Space, 15:00-16:00**
- Jipson, Arthur J - *Racism & Law Enforcement* | **St. Joseph's Hall 013, 11:00-12:00**
- Jipson, Arthur J - *Effectiveness of Ohio's Mental Health Courts in Reducing Recidivism* | **St. Joseph's Hall 013, 13:00-14:00**
- Jipson, Arthur J - *Firearm Safety: A Case Study to Prevent the Next Columbine Shooting* | **St. Joseph's Hall 013, 14:00-15:00**
- Jipson, Arthur J - *The Institutional and Individual Causes of Political Corruption in the United States* | **St. Joseph's Hall 013, 9:00-10:00**
- Jipson, Arthur J - *The Price for their Protection and Service: Domestic Violence in Police Families.* | **St. Joseph's Hall 013, 16:00-17:00**
- Jipson, Arthur J - *Human Trafficking: The Aftermath* | **St. Joseph's Hall 013, 15:00-16:00**
- Jipson, Arthur J - *Motor Vehicle Crimes and Victimization at the University of Dayton* | **St. Joseph's Hall 013, 9:00-10:00**
- Jipson, Arthur J - *Cadets and the Campus Community: The Impact of ROTC on Students at the University of Dayton.* | **St. Joseph's Hall 013, 10:00-11:00**
- Jipson, Arthur J - *Perceptions of Sexual Behavior For the Exchange of a Benefit by College Students: The Depiction of Reality* | **St. Joseph's Hall 013, 14:00-15:00**
- Jipson, Arthur J - *Guns on Campus: Concealed Firearms and Students' Perceptions of Safety at the University of Dayton* | **St. Joseph's Hall 013, 14:00-15:00**
- Jipson, Arthur J - *Breaking the Barriers: How does crime effect the trajectory of first generation college students?* | **St. Joseph's Hall 013, 11:00-12:00**
- Jipson, Arthur J - *Sandy Hook Elementary School Shooting as a Tipping Point for Gun Policy Reform in the United States* | **St. Joseph's Hall 013, 15:00-16:00**
- Jipson, Arthur J - *Perceptions of Sexual Behavior For the Exchange of a Benefit by College Students: The Depiction of Reality* | **St. Joseph's Hall 013, 13:00-14:00**
- Jipson, Arthur J - *A Bad Romance: Emergency Responders and Perceptions of Human Trafficking* | **St. Joseph's Hall 013, 15:00-16:00**
- Jipson, Arthur J - *Is the Juice Worth the Squeeze: The Sociological Implications of Steroid Use in Major League Baseball* | **St. Joseph's Hall 013, 10:00-11:00**
- Jipson, Arthur J - *Smart Policing: How Dayton Deals With Violent Street Groups* | **St. Joseph's Hall 013, 14:00-15:00**
- Jipson, Arthur J - *The Science Beyond the Art of Voir Dire: A Physiological Approach to Examining the Influence of Attraction on Jury Deliberation.* | **St. Joseph's Hall 013, 16:00-17:00**
- Jipson, Arthur J - *Patterns of Recidivism: Are Sex Offenders Going Back for Seconds?* | **St. Joseph's Hall 013, 13:00-14:00**
- Jipson, Arthur J - *The Effects of the use of Force by Police Officers* | **St. Joseph's Hall 013, 16:00-17:00**
- Jipson, Arthur J - *Teachers and Firearms.* | **St. Joseph's Hall 013, 14:00-15:00**
- John, Barbara Heroy - *How Markets Fail. Exploring Illusions of Harmony, Stability, Predictability and Rationality* | **Miriam Hall 103, 8:00-16:00**
- Johnson, David W - *UV-induced photodegradation of beta-carotene in hexane solvent* | **RecPlex, 11:00-12:30**
- Jones, Jonathan C - *Evaluation of Downtown Dayton Community Interest in a Local Foods Market* | **Kennedy Union 312, 16:00-16:20**
- Kallenberg, Brad J - *Art as Sacrament: Rowan Williams's Theology of Art* | **Kennedy Union 222, 14:40-15:00**
- Kanet, John J - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 1 of 2* | **Miriam Hall 104, 11:00-12:00**
- Kanet, John J - *OPS 495 Operations and Supply Management Senior Consulting Project Presentations - Session 2 of 2* | **Miriam Hall 104, 13:00-14:00**
- Kango-Singh, Madhuri - *Investigation of the Genetic Interactions between Hippo Signaling Pathway and Drosophila C-terminal Src Kinase (d-csk)* | **RecPlex, 11:00-12:30**
- Kango-Singh, Madhuri - *Scribble acts in the Drosophila Fat-Hippo pathway to regulate Warts activity* | **RecPlex, 11:00-12:30**
- Kango-Singh, Madhuri - *A Drosophila Eye Model to Study the Role of the Dorsal-ventral (DV) Patterning Genes in Growth and Cancer* | **RecPlex, 11:00-12:30**
- Kango-Singh, Madhuri - *Functional and Genetic Analysis of Compensatory Responses Induced in Tumors Caused by Loss of Scribble (apical-basal polarity).* | **RecPlex, 11:00-12:30**
- Kango-Singh, Madhuri - *Genetic Interaction of Discs-large [Dlg] with Hippo Signaling Pathway* | **RecPlex, 11:00-12:30**
- Kango-Singh, Madhuri - *The regulation of Dronc by Hippo Pathway* | **Kennedy Union 211, 14:00-14:20**
- Kango-Singh, Madhuri - *Analysis of Yorkie activity in scribble mutant cells challenged with different cellcompetitive environments* | **Kennedy Union 211, 15:00-15:20**
- Kango-Singh, Madhuri - *Hippo Signaling Pathway and JNK Signaling Pathway in Amyloid-Beta 42 (A<sub>42</sub>) Mediated Cell Death* | **Kennedy Union 211, 13:40-14:00**
- Kango-Singh, Madhuri - *Genetic Interaction of runxB with Hippo Signaling Pathway* | **Kennedy Union 211, 14:20-14:40**
- Kango-Singh, Madhuri - *Differential Hippo Signaling in Compensatory Proliferation in a Drosophila Tumor Model* | **Kennedy Union 211, 14:40-15:00**
- Kargl, Kathleen W - *Branding and Conceptual Design for Smorgasburger Food Truck* | **ArtStreet Studio E, 13:00-17:00**

## NAME - TITLE | LOCATION/TIME

- Keil, Robert G - *An Electrochemical Study of L-3,4-dihydroxyphenylalanine (L-dopa)* | **RecPlex, 11:00-12:30**
- Keil, Robert G - *Solution Structures of Amphiphiles* | **RecPlex, 9:00-10:30**
- King, Leslie W - *Take Back the Tap: UD River Steward 2013 Cohort Senior Project* | **RecPlex, 9:00-10:30**
- King, Leslie W - *Bringing Our Rivers to the Community: The RiverMobile* | **C Lot, 10:00-12:00**
- Kinnucan-Welsch, Kathryn A - *Research on Standardized Tests in p-12 Schools* | **RecPlex, 9:00-10:30**
- Kinnucan-Welsch, Kathryn A - *Research on Instruction in p-12 Schools* | **RecPlex, 9:00-10:30**
- Kinnucan-Welsch, Kathryn A - *Research on Roles and Practices that Engage Multiple Stakeholders in p-12 Schools* | **RecPlex, 9:00-10:30**
- Kinnucan-Welsch, Kathryn A - *Research on Student Achievement in p-12 Schools* | **RecPlex, 9:00-10:30**
- Kinnucan-Welsch, Kathryn A - *Research on the Relationship between Policy and Practice in p-12 Schools* | **RecPlex, 9:00-10:30**
- Kinnucan-Welsch, Kathryn A - *Research on Private p - 12 Schools in the United States* | **RecPlex, 9:00-10:30**
- Kirschman, Keri J B - *Health Belief Model and Risk-Seeking Behavior as Indicators of Chosen Listening Levels of Youth* | **RecPlex, 11:00-12:30**
- Kirschman, Keri J B - *Momma Knows Best: Consideration of Child Temperament in Parent Prediction of Injury Risk* | **RecPlex, 11:00-12:30**
- Kirschman, Keri J B - *Observed Hazard Interactions by Preschool Children and Their Sibling Supervisors* | **RecPlex, 11:00-12:30**
- Kissock, J Kelly - *Senior Capstone Project to develop a curriculum for an American Company in China that deals with controls for Industrial Automation.* | **Kennedy Union 310, 15:30-16:30**
- Kissock, J Kelly - *Workshop coordinator for the Energy Efficient Manufacturing Program, Summer 2012 in Suzhou, China* | **Kennedy Union 310, 15:30-16:30**
- Kozioł, Andrea M - *Contact Relationships between Goshen Dome rocks and surrounding schists, West-Central Massachusetts, USA* | **RecPlex, 9:00-10:30**
- Krane, Carissa M - *Membrane trafficking of aquaglyceroporin HC-3 in erythrocytes from the freeze tolerant anuran, *Cope's gray treefrog, Hyla chrysoscelis** | **RecPlex, 11:00-12:30**
- Krane, Carissa M - *Mutation Frequency in Mouse Embryonic Stem Cells After Exposure to Carbon Nanomaterials* | **RecPlex, 11:00-12:30**
- Krane, Carissa M - *Assessing the Effect of Shear Stress on AQP1 Expression in Vascular Endothelial Cells in vitro.* | **RecPlex, 11:00-12:30**
- Krane, Carissa M - *Analyzing Osmotically-Induced Cell Shape Changes in Erythrocytes from the Freeze Tolerant Anuran *Cope's Gray Tree Frog, Hyla chrysoscelis** | **RecPlex, 11:00-12:30**
- Krane, Carissa M - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 13:00-15:00**
- Kunz, Benjamin R - *Visual Cues used for Relative Distance Judgements in 2D Displays* | **RecPlex, 11:00-12:30**
- Kunz, Benjamin R - *The Role of Visual and Proprioceptive Limb Information in Affordance Judgments and Action Capabilities* | **RecPlex, 11:00-12:30**
- Kunz, Benjamin R - *The Effect of Graphic Quality in Virtual Environments on the Perception of Egocentric and Exocentric Distances* | **RecPlex, 11:00-12:30**
- Kunz, Benjamin R - *The Effect of Context Upon the Perception of Egocentric and Exocentric Distances Using a Walkable Human Muller-Lyer Illusion* | **RecPlex, 11:00-12:30**
- Kunz, Benjamin R - *Decoupling the Biomechanics of Locomotion and the Direction of Spatial Updating During Blind-walking Tasks* | **RecPlex, 11:00-12:30**
- Kunz, Benjamin R - *The Influence of Personal Height and Eye Level on the Perception of Object Dimensions and Affordance Judgments* | **RecPlex, 11:00-12:30**
- Kunz, Benjamin R - *Spatial Intelligence and Memory for Location in Athletes and Non-Athletes* | **RecPlex, 11:00-12:30**
- Lang, Jennifer M - *A Functional Key to the Stream Benthic Macroinvertebrates of the Republic of Palau* | **RecPlex, 11:00-12:30**
- Lardinois, Kara - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Larson, Robert K - *MANDATORY AUDITOR ROTATION: A REVIEW AND ANALYSIS OF RESEARCH FROM THE LAST DECADE* | **RecPlex, 11:00-12:30**
- Lasley, Thomas J - *Efficiency, Adequacy, and Equity in Educational Funding* | **Kennedy Union 311, 13:00-13:20**
- Leming, Laura M - *Breaking the Barriers: How does crime effect the trajectory of first generation college students?* | **St. Joseph's Hall 013, 11:00-12:00**
- Leonard, Janet R - *Flyer Enterprises: The Experience* | **Miriam Hall 214, 11:00-12:00**
- Leslie, James M - *Minimalism: The Music and Influence of Steve Reich on Percussion Music, Composition, and Performance* | **Sears Recital Hall, 15:30-16:30**
- Levering, Matthew W - *Proclaiming Christ: Genre and Christology in Thomas Aquinas and Karl Barth* | **Kennedy Union 312, 15:00-15:20**
- Levering, Matthew W - *Binding All Things Together: Charity and the Perfection of the Christian Life* | **Kennedy Union 312, 15:20-15:40**
- Liu, Ruihua - *The Kou Jump-Diffusion Model for Option Pricing* | **RecPlex, 11:00-12:30**
- Longazel, Jamie - *Guns on Campus: Concealed Firearms and Students' Perceptions of Safety at the University of Dayton* | **St. Joseph's Hall 013, 14:00-15:00**
- Lopper, Matthew E - *The added elements in the DNA Binding Region of the PriA protein of *Deinococcus radiodurans* may serve to modulate PriA unwinding activity* | **RecPlex, 11:00-12:30**
- Lopper, Matthew E - *The Effect of the Inserted Sequence in the Helicase Domain of the *Deinococcus radiodurans* PriA Protein* | **RecPlex, 11:00-12:30**
- Lopper, Matthew E - *Investigation of a 70 Amino Acid Insert in the DNA Binding Domain of *Deinococcus radiodurans* PriA* | **RecPlex, 11:00-12:30**
- Lopper, Matthew E - *Identification of a compound that disrupts the primosome function in *Neisseria gonorrhoeae* DNA replication restart* | **RecPlex, 9:00-10:30**
- Lopper, Matthew E - *Mechanistic studies of inhibitors of DNA replication restart pathways in *Neisseria gonorrhoeae** | **RecPlex, 11:00-12:30**
- Lopper, Matthew E - *Protocol Standardization of Microvesicle Quantification by Flow Cytometry Reveals a Correlation to Healthy Donor Total Body Weight* | **Kennedy Union 211, 16:00-16:20**
- Magnuson, Phillip C - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Magnuson, Phillip C - *Honors Recital Auditions* | **Sears Recital Hall, 13:00-15:00**
- Majka, Theophile J - *Refugees in Dayton: The Job Search & Employment Experience in their New Home* | **St. Joseph's Hall 023, 16:00-17:00**
- Majka, Theophile J - *Health Inequity and the Racial Minority Experience* | **St. Joseph's Hall 023, 16:00-17:00**
- Majka, Theophile J - *Enrollment Rates of Latino/as in Higher Education with a Focus on Mexican Americans* | **St. Joseph's Hall 023, 14:00-15:00**
- Majka, Theophile J - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 14:00-15:00**
- Marcinowski, Michael Gary - *La Fin: Senior Portfolio Presentations* | **ArtStreet Studio B, 13:00-14:00**
- Mashburn, Joe Don - *Microcanonical and canonical temperatures in two-level paramagnetic spin lattices* | **RecPlex, 11:00-12:30**
- Masthay, Mark B - *The Development, Formulation and Stability of Suds and Antifoam for Heavy Duty Liquid Laundry Detergents* | **RecPlex, 11:00-12:30**
- Masthay, Mark B - *Microcanonical and canonical temperatures in two-level paramagnetic spin lattices* | **RecPlex, 11:00-12:30**
- Masthay, Mark B - *UV-induced photodegradation of beta-carotene in hexane solvent* | **RecPlex, 11:00-12:30**
- McCutcheon, James R - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- McCutcheon, James R - *Student Songwriter Concert* | **Kennedy Union Boll Theatre, 15:00-16:00**
- McEwan, Ryan W - *Impact of Amur Honeysuckle (*Lonicera maackii*) Leachate on *Culex pipiens* Survivorship, Growth, and Pupation* | **RecPlex, 11:00-12:30**
- McEwan, Ryan W - *The Micro-Ecology of Plant Invasion: Assessing Impacts of the Invasive Exotic Shrub *Lonicera maackii* on the Ecology of Soil Microbial Communities* | **RecPlex, 11:00-12:30**
- McEwan, Ryan W - *A riparian forest invader, alters cross-system subsidies that change ecosystem processes* | **RecPlex, 11:00-12:30**
- McEwan, Ryan W - *An Organic Approach to Defending Trees Against an Insect Menace: A Service-Learning Search for Solutions to the Emerald Ash Borer.* | **RecPlex, 11:00-12:30**
- McEwan, Ryan W - *Spatial and Temporal Patterns of Herb-layer Biodiversity in an Old-growth Temperate Deciduous Forest* | **RecPlex, 11:00-12:30**
- McEwan, Ryan W - *The invasive shrub Amur honeysuckle (*Lonicera maackii*) influences nutrient dynamics in headwater streams* | **RecPlex, 11:00-12:30**
- McGrew, Allen J - *An International and Intercultural Learning Experience: A University of Dayton and Nanjing University Collaborative Geology Field Course "Down Under"* | **RecPlex, 9:00-10:30**
- Merithew, Caroline W - *Podcast U/Podcast You: A Crossing Boundaries Project in Women's History and Women's Health* | **LTC Forum, 13:00-15:00**
- Miller, Dan E - *Firearm Safety: A Case Study to Prevent the Next Columbine Shooting* | **St. Joseph's Hall 013, 14:00-15:00**
- Miller, Dan E - *Young Love: Healthy Romantic Relationships among University Students* | **St. Joseph's Hall 023, 14:00-15:00**
- Miller, Nancy A - *The Institutional and Individual Causes of Political Corruption in the United States* | **St. Joseph's Hall 013, 9:00-10:00**
- Miller, Nancy A - *Interest Groups, Money and Influence* | **LTC Studio, 14:30-15:30**

# ADVISOR INDEX

## NAME - TITLE | LOCATION/TIME

- Miller, Vincent J - *The Rural/Urban Dyad: Explorations in Space and Place* | **Kennedy Union 222, 14:00-14:20**
- Montoya, R Matthew - *Cognitive Appraisals in a Deception Task* | **RecPlex, 11:00-12:30**
- Montoya, R Matthew - *I Can Tell by Your Smile: A Study of Alternative Partner Preference Using Facial EMG* | **RecPlex, 11:00-12:30**
- Montoya, R Matthew - *The Science Beyond the Art of Voir Dire: A Physiological Approach to Examining the Influence of Attraction on Jury Deliberation.* | **St. Joseph's Hall 013, 16:00-17:00**
- Morgan, Thomas L - *Words and Revolution: Female Political Awakening in Julia Alvarez's "In the Time of the Butterflies"* | **Kennedy Union 311, 15:40-16:00**
- Murray, Andrew P - *Improving the Techniques for Center of Mass Estimation Using Statically Equivalent Serial Chain Modeling* | **RecPlex, 11:00-12:30**
- Murray, Andrew P - *Analysis and Design of Reconfigurable Linkages for Industrial Tasks* | **RecPlex, 11:00-12:30**
- Murray, Andrew P - *Defect-Free Slider-Crank Function Generation Including Position, Velocity, and Acceleration Specification* | **RecPlex, 11:00-12:30**
- Murray, Andrew P - *Design and Prototyping of a 3D Shape Changing Mechanism* | **RecPlex, 11:00-12:30**
- Murray, Andrew P - *Four-bar Linkage Synthesis for a Combination of Motion and Path-point Generation* | **RecPlex, 11:00-12:30**
- Murray, Andrew P - *Simulated Performance Analysis of Novel Automotive Spring-Starter Designs using Experimentally Derived Dynamic Engine Models* | **RecPlex, 11:00-12:30**
- Murray, Andrew P - *The Development of a Spring Powered Starter for a Motorcycle* | **RecPlex, 11:00-12:30**
- Myers, Kevin J - *The Influence of High Solids Loading Concentration and Scaling-up Operation in Coal Slurry Just-Suspended Agitation by High-Efficiency Impellers* | **RecPlex, 11:00-12:30**
- Myszka, David H - *Improving the Techniques for Center of Mass Estimation Using Statically Equivalent Serial Chain Modeling* | **RecPlex, 11:00-12:30**
- Myszka, David H - *Analysis and Design of Reconfigurable Linkages for Industrial Tasks* | **RecPlex, 11:00-12:30**
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- Myszka, David H - *The Development of a Spring Powered Starter for a Motorcycle* | **RecPlex, 11:00-12:30**
- Nickell, Philip - *Analyzing Osmotically-Induced Cell Shape Changes in Erythrocytes from the Freeze Tolerant Anuran *Cephalopoda* Gray Tree Frog, *Hyla chrysoscelis** | **RecPlex, 11:00-12:30**
- Nielsen, Mark G - *Beta 2 Tubulin Amino Acids Required for Sperm Tail Axoneme Function* | **RecPlex, 11:00-12:30**
- Nielsen, Mark G - *Studying the Evolution of Beta 2 Tubulin in Diptera* | **RecPlex, 11:00-12:30**
- O'Mara, Erin - *Reconciling Autonomy and Self-Enhancement: Is Consistency the Key to Well-Being?* | **RecPlex, 11:00-12:30**
- O'Mara, Erin - *Is Chivalry Really Dead? It Depends on When You Ask: Women's Reception of Benevolent Sexism Changes Across the Menstrual Cycle* | **RecPlex, 11:00-12:30**
- O'Mara, Erin - *The influence of self-esteem level on interpretation of ambiguous stimuli after a rejection experience* | **RecPlex, 11:00-12:30**
- Ordonez, Raul E - *Independent Feeding Device* | **RecPlex, 11:00-12:30**
- Pai, Donald L - *Solving Problems through Academic Synthesis: An Interdisciplinary Approach to Understanding Community Food Environments* | **Kennedy Union East Ballroom, 13:00-14:00**
- Pautz, Michelle C - *Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township* | **Marianist Hall Learning Space Commons, 13:00-14:00**
- Pautz, Michelle C - *Environmental Rights, Law and Justice: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 13:00-14:00**
- Pautz, Michelle C - *Environmental Rights, Justice, and the Law: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 13:00-14:00**
- Pautz, Michelle C - *Environmental Rights, Justice, and the Law: Clean Water Ltd in Jefferson Township* | **Marianist Hall Learning Space Commons, 13:00-14:00**
- Pechal, Jennifer - *A Year-Long Study of Carrion, Insects, and Scavengers* | **RecPlex, 11:00-12:30**
- Pechal, Jennifer - *Succession and Female Gravid Status of *Chrysomya rufifacies* and *Cochliomyia macellaria* on Carrion* | **RecPlex, 11:00-12:30**
- Phillips-Young, Lori G - *Social Justice Club Poster Presentation on Homelessness* | **RecPlex, 9:00-10:30**
- Phillips-Young, Lori G - *Social Justice Club Poster Presentation on Homelessness in Montgomery County* | **RecPlex, 9:00-10:30**
- Phillips-Young, Lori G - *Social Justice Club - Miracle Makers* | **RecPlex, 9:00-10:30**
- Phillips-Young, Lori G - *Education in Dayton: A Social Justice Service Club Project* | **RecPlex, 9:00-10:30**
- Phillips-Young, Lori G - *Social Justice Service Learning Organization 2012-2013 Service Projects* | **RecPlex, 9:00-10:30**
- Picca, Leslie H - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**
- Picca, Leslie H - *Refugees in Dayton: The Job Search & Employment Experience in their New Home* | **St. Joseph's Hall 023, 16:00-17:00**
- Picca, Leslie H - *The University of Dayton: A Living Wage?* | **St. Joseph's Hall 023, 16:00-17:00**
- Picca, Leslie H - *Hearing the Voices of the People: Community Perceptions of Coal Mining* | **St. Joseph's Hall 023, 15:00-16:00**
- Picca, Leslie H - *Health Inequity and the Racial Minority Experience* | **St. Joseph's Hall 023, 16:00-17:00**
- Picca, Leslie H - *Young Love: Healthy Romantic Relationships among University Students* | **St. Joseph's Hall 023, 14:00-15:00**
- Picca, Leslie H - *College Student Experiences of Bullying and the Role of Technology* | **St. Joseph's Hall 023, 14:00-15:00**
- Picca, Leslie H - *Enrollment Rates of Latino/as in Higher Education with a Focus on Mexican Americans* | **St. Joseph's Hall 023, 14:00-15:00**
- Picca, Leslie H - *Their Stories Are Real: A Qualitative Study of the Relationship of Black College Students and Campus Police* | **St. Joseph's Hall 023, 14:00-15:00**
- Picca, Leslie H - *Waiting to See What's Over the Hill: Developing a Better Understanding of Older Females in Retirement Care Facilities* | **St. Joseph's Hall 023, 15:00-16:00**
- Picca, Leslie H - *Express Yourself: The Relationship between Music and Depression in Yahoo! Answers* | **St. Joseph's Hall 023, 15:00-16:00**
- Picca, Leslie H - *Political Polarization and American Voters* | **St. Joseph's Hall 023, 15:00-16:00**
- Picca, Leslie H - *Beyond 1 in 4: Predictors and Prevalence of Sexual Violence Victimization* | **St. Joseph's Hall 013, 13:00-14:00**
- Picca, Leslie H - *Patterns of Recidivism: Are Sex Offenders Going Back for Seconds?* | **St. Joseph's Hall 013, 13:00-14:00**
- Picca, Leslie H - *Refining the Visualization of Community Nutrition Environments: An Assessment of Multiple Methods of Geospatial Analysis in Dayton, Ohio, USA* | **St. Joseph's Hall 023, 16:00-17:00**
- Pici, Joseph R - *Spaceships and Moths' Wings* | **Kennedy Union 311, 15:20-15:40**
- Pierce, Jason L - *A Voice for the Marginalized: Analyzing the impact of gender mainstreaming initiatives on lives of rural women in the Republic of Malawi* | **St. Joseph's Hall 221, 15:20-15:40**
- Pinnell, Margaret F - *Engineering Outreach at Children's Home Autism High School* | **RecPlex, 9:00-10:30**
- Pinnell, Margaret F - *National Science Foundation - Research Education for Teachers and the Experience for Students* | **RecPlex, 11:00-12:30**
- Poe, Danielle M - *Environment, Rights, Justice, and Law: Clean Water Limited in Jefferson Township* | **Marianist Hall Learning Space Commons, 13:00-14:00**
- Poe, Danielle M - *Environmental Rights, Law and Justice: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 13:00-14:00**
- Poe, Danielle M - *Environmental Rights, Justice, and the Law: Clean Water Limited and Jefferson Township* | **Marianist Hall Learning Space Commons, 13:00-14:00**
- Poe, Danielle M - *Environmental Rights, Justice, and the Law: Clean Water Ltd in Jefferson Township* | **Marianist Hall Learning Space Commons, 13:00-14:00**
- Portier, William - *The American Reception of Hans Urs von Balthasar from 1979-2004* | **Kennedy Union 222, 13:00-13:40**
- Portier, William - *Missing Body: The Disappearance of Mystical Body of Christ Theology in the Twentieth Century* | **Kennedy Union 222, 13:00-13:20**
- Powers, Peter E - *The Glass Walls Project: Visualizing Laboratories to Facilitate Collaboration* | **RecPlex, 11:00-12:30**
- Powers, Peter E - *Fabrication of Low-Cost Flow Cell and Tapered Optical Fibers for Aqueous Biosensing* | **RecPlex, 11:00-12:30**
- Powers, Peter E - *Tapered Optical Fibers for Aqueous and Gaseous Phase Biosensing Applications* | **Kennedy Union 222, 16:00-16:20**
- Qumsiyeh, Maher B - *11th Annual Integration Bee, Mathematics* | **Science Center 255 - Chudd Auditorium, 13:00-15:00**
- Qumsiyeh, Maher B - *Integration Bee Lunch, Department of Mathematics* | **Science Center Atrium, 12:00-13:00**
- Rapp, John E - *Portfolio Investment and Weighting Strategies for High Quality Stocks 2008 to 2011: A Study in Portfolio Management* | **RecPlex, 9:00-10:30**



## NAME - TITLE | LOCATION/TIME

- Reeb, Roger N - *Social Stigma, Homelessness, and Mental Illness: An Experimental Study* | **LTC Meeting Space, 14:00-14:20**
- Reid, Jennifer G - *Engineering Outreach at Children's Home Autism High School* | **RecPlex, 9:00-10:30**
- Richards, Stephen B - *Preparing Pre-Service Teachers to work with English Language Learners* | **RecPlex, 11:00-12:30**
- Ridenour, Carolyn S - *Social Capital Development in Higher Education: A Cross-Case Analysis* | **RecPlex, 11:00-12:30**
- Ruggiero, John G - *Evaluating the Performance of Ohio Schools: A Nonparametric Analysis* | **RecPlex, 9:00-10:30**
- Ruggiero, John G - *Estimating Productivity of Australian Schools Using a Public Sector Malmquist Measure* | **RecPlex, 11:00-12:30**
- Rumpfkeil, Markus P - *Surrogate models and their applications in aerospace engineering* | **Kennedy Union 207, 15:20-15:40**
- Russo, Charles J - *An Inductive Approach toward Understanding the Legal Parameters of Student Speech Regarding Social Media Technology* | **RecPlex, 9:00-10:30**
- Santoian, Arthur R - *Intelligence Resume Management System* | **Miriam Hall 207, 16:10-16:40**
- Sarangam, Andrew M - *Tapered Optical Fibers for Aqueous and Gaseous Phase Biosensing Applications* | **Kennedy Union 222, 16:00-16:20**
- Scantlin, Ronda M - *The Ecology of "Media Literacy": Exploring Critical Questions Surrounding the Impact of Digital Experiences on Development* | **LTC Studio, 13:00-14:00**
- Schaller, Molly A - *Understanding Chinese students in a Global Context* | **LTC Forum, 16:30-18:30**
- Scheltns, Kathleen C - *Spontaneous Pneumothorax* | **RecPlex, 11:00-12:30**
- Schoenberger, Katherine Rose - *Investigation of the Geological World Through Natural Disasters* | **RecPlex, 9:00-10:30**
- Servaites, Jerome C - *Assessment of Strains of Thermophilic Algae for Summer Growth* | **RecPlex, 11:00-12:30**
- Sidhu, Sukhjinder S - *Characterization of Emissions from the Combustion of a Selected Surrogate for Aviation Fuels* | **RecPlex, 11:00-12:30**
- Sidhu, Sukhjinder S - *Evaluation of Downtown Dayton Community Interest in a Local Foods Market* | **Kennedy Union 312, 16:00-16:20**
- Singh, Amit - *A Drosophila Eye Model to Study the Role of the Dorsal-ventral (DV) Patterning Genes in Growth and Cancer* | **RecPlex, 11:00-12:30**
- Singh, Amit - *Drosophila eye model to identify genetic modifiers of amyloid beta 42 (A<sub>42</sub>) mediated neurodegeneration* | **RecPlex, 11:00-12:30**
- Singh, Amit - *Search for the modifiers of amyloid-42 mediated cell death in Drosophila eye* | **RecPlex, 11:00-12:30**
- Singh, Amit - *Domain specific function of Cullin-4 to promote cell survival in the ventral eye compartment in Drosophila* | **RecPlex, 11:00-12:30**
- Singh, Amit - *Role of Transcriptional Co activator CREB Binding Protein in Amyloid Beta-42 mediated neurodegeneration* | **RecPlex, 11:00-12:30**
- Singh, Amit - *Analysis of Yorke activity in scribble mutant cells challenged with different cellcompetitive environments* | **Kennedy Union 211, 15:00-15:20**
- Singh, Amit - *Hippo Signaling Pathway and JNK Signaling Pathway in Amyloid-Beta 42 (A<sub>42</sub>) Mediated Cell Death* | **Kennedy Union 211, 13:40-14:00**
- Singh, Amit - *defective proventriculus (dve), a new member of DV patterning in the eye.* | **Kennedy Union 211, 13:00-13:20**
- Singh, Amit - *Study of the role of Cullin-4 function during organogenesis in the Drosophila melanogaster eye.* | **Kennedy Union 211, 13:20-13:40**
- Slade, Andrew - *Elegant's Wake* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Smyth, Nathaniel C - *Photogeologic Altars* | **Marianist Hall Learning Space Commons, 15:00-16:00**
- Sritharan, R - *Graphs With Small Intersection Dimension* | **RecPlex, 11:00-12:30**
- Strain, Margaret M - *Social Justice Club Poster Presentation on Homelessness in Montgomery County* | **RecPlex, 9:00-10:30**
- Strain, Margaret M - *Social Justice Club - Miracle Makers* | **RecPlex, 9:00-10:30**
- Strain, Margaret M - *Social Justice Service Learning Organization 2012-2013 Service Projects* | **RecPlex, 9:00-10:30**
- Subramanyam, Guru - *Innovative Design and Entrepreneurship Team Project conducted at UDCI in China* | **Kennedy Union 310, 15:30-16:30**
- Sullivan, Diane M - *UD Business Plan Competition: Insights from the Finalists* | **Miriam Hall 109, 11:00-12:00**
- Sutherland, Bobbi - *Changing Cultural Frameworks* | **Humanities 122, 14:00-15:00**
- Sutherland, Bobbi - *Social Class and Daily Life* | **Humanities 122, 15:00-16:00**
- Sutherland, Bobbi - *Writing a History of Food and Society as a Class Project* | **Humanities 122, 13:00-14:00**
- Sutherland, Bobbi - *Religion and Daily Life* | **Humanities 122, 16:00-17:00**
- Swavey, Shawn M - *Enhanced O<sub>2</sub> Electro catalysis by a Highly Conjugated Cobalt (II) Porphyrin* | **Kennedy Union 211, 15:40-16:00**
- Szeghi Dempster, Tereza M - *Findings on Human Rights Research from the UD McGrath Student Fellows* | **Kennedy Union Torch Lounge, 14:00-15:00**
- Tafz, Robert A - *Efficiency, Adequacy, and Equity in Educational Funding* | **Kennedy Union 311, 13:00-13:20**
- Talbott, Anthony N - *Human Trafficking in the United States* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Modern Day Slavery: A Contrast Between Historical Thoughts of Slavery and the Modern Reality* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Corruption in Southeast Asia: An Analysis of Contributing Factors* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Slavery: How the Chains Remain Attached Today* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Ohio Laws to Combat Human Trafficking: Somewhat Flawed Despite Significant Strides Made* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Understanding The U.S. Trafficking in Persons (TIP) Report* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *The Business of Trafficking: Supply and Demand* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Prosecuting Genocide: A case study of the Khmer Rouge* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *What is the Annual US Trafficking in Persons Report?* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Human Trafficking: Where and How to buy fair trade products in Ohio.* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *What Isn't Considered in the Dressing Room: Human Rights Violations Behind the Clothing Industry.* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *The Progression of Human Trafficking Laws on a National Level* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Comparing US Counter-insurgency Actions in the Philippines in 1950s and Vietnam in 1960s: Why did One Succeed and One Fail?* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Exposing Nike: Team Sweat* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Contrasting Historic and Modern Day Slavery* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Human Trafficking and Ohio* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Human Trafficking and Service Learning: Considering the Impact of Awareness-Raising Events on its Implementors and Audience* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *A couple 20's for the night: an Analysis of "Renting Lacy"* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *PRESENTING AND HIGHLIGHTING THE STAGGERING AND SHOCKING STATISTICS OF HUMAN TRAFFICKING IN THE USA.* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *The Business Side of Human Trafficking* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Advocacy of Greater Utilization of UNESCO World Heritage Site Benefits in Regards to Southeast Asia* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Supply Chain Investigation of Products Manufactured by Slave Labor* | **RecPlex, 9:00-10:30**
- Talbott, Anthony N - *Southeast Asian Terrorism: The Second Front* | **St. Joseph's Hall 231, 14:00-14:20**
- Talbott, Anthony N - *A Bad Romance: Emergency Responders and Perceptions of Human Trafficking* | **St. Joseph's Hall 013, 15:00-16:00**
- Talbott, Anthony N - *The Business of Sex Trafficking in Thailand* | **St. Joseph's Hall 231, 14:20-14:40**
- Talbott, Anthony N - *Educating Middle and High School Students in the Miami Valley about Human Trafficking* | **St. Joseph's Hall 231, 14:40-15:00**
- Talbott, Anthony N - *Human Trafficking Awareness: United States* | **St. Joseph's Hall 231, 13:00-13:40**
- Talbott, Anthony N - *What Could (Should?) of Been in Cambodia* | **St. Joseph's Hall 231, 15:00-15:20**
- Talbott, Anthony N - *Searching for Meaning in Violence: A Study of Southern Thailand* | **St. Joseph's Hall 231, 15:20-15:40**

# ADVISOR INDEX

## NAME - TITLE | LOCATION/TIME

- Talbot, Anthony N - *Doi Moi and Vietnam: Renovation to Continue or Time for a New Blueprint?* | **St. Joseph's Hall 231, 15:40-16:00**
- Talbot, Anthony N - *Can Singapore's Public Housing Successes be Replicated Elsewhere?* | **St. Joseph's Hall 231, 16:20-16:40**
- Talbot, Anthony N - *Is Buddha Writing the Prescriptions in South East Asia?* | **St. Joseph's Hall 231, 16:40-17:00**
- Talbot, Anthony N - *Economic Success In Southeast Asia* | **St. Joseph's Hall 231, 16:00-16:20**
- Taylor, Annette M - *Libel Law Exceptions for the Press in 2nd & 7th Circuit Courts of Appeals* | **RecPlex, 9:00-10:30**
- Taylor, Annette M - *Assessing Appellate Courts' Definitions of Elements in Libel Law* | **RecPlex, 9:00-10:30**
- Taylor, Annette M - *Journalists' Rights under State Shield Laws* | **RecPlex, 9:00-10:30**
- Taylor, Annette M - *Legal Implications of Publishing National Secrets* | **RecPlex, 9:00-10:30**
- Taylor, Annette M - *Press Access to Information about Student-Athletes and Municipalities* | **RecPlex, 9:00-10:30**
- Taylor, Annette M - *Legal Issues Confronting the News Media Concerning Politics, Murder and Undercover Reporting* | **RecPlex, 9:00-10:30**
- Thomas, Patrick - *The State of Digital Production within International Educational Publishing: Obstacles, Innovations, and Possible Solutions* | **RecPlex, 11:00-12:30**
- Thomas, Patrick - *The Importance of Teacher Response to ELL Student Writing: TAs and IEP Instructors* | **Humanities 118, 13:00-13:40**
- Thompson, Teresa L - *An Application of Intercultural Communication Theories in the Spanish Workplace* | **RecPlex, 11:00-12:30**
- Thompson-Miller, Ruth - *Private versus Public: An examination of the Juvenile Justice System.* | **St. Joseph's Hall 013, 11:00-12:00**
- Thompson-Miller, Ruth - *Diversity and Campus Climate: A Closer Look at UD* | **St. Joseph's Hall 025, 10:30-11:30**
- Thompson-Miller, Ruth - *Their Stories Are Real: A Qualitative Study of the Relationship of Black College Students and Campus Police* | **St. Joseph's Hall 023, 14:00-15:00**
- Tibbetts, Paul E - *Evolutionary Explorations of Ethics: An Interdisciplinary Account of the Development of Human Morality* | **Kennedy Union 312, 14:20-14:40**
- Tillman, Beverly Ann - *Teaching Methods, Strategies, and Procedures for English Language Learners in Early Childhood Education* | **RecPlex, 9:00-10:30**
- Titlebaum, Peter J - *Analyzing and Comparing State Legislation and High School Association Regulations Regarding the Management of Concussions* | **Marianist Hall Learning Space 218, 13:00-13:20**
- Titlebaum, Peter J - *Food and Beverage Trends in Premium Seating* | **ArtStreet Studio C, 13:40-14:00**
- Trollinger, Susan L - *Woman in the Full Quiver: An Analysis of the Discourse of Womanhood in the American Quiverful Movement* | **Humanities 118, 14:00-14:20**
- Trollinger, William V - *The "Authorized" Version and the Problem of Authority* | **Humanities 118, 15:00-15:20**
- Tsen, Hsuan - *The Flood in Photos* | **RecPlex, 9:00-10:30**
- Tsonis, Panagiotis A - *Differential Expression of Genes Between Dorsal and Ventral Iris Undergoing Lens Regeneration in Notoptthalmus viridescens Revealed by Next Generation RNA Sequencing* | **RecPlex, 11:00-12:30**
- Tsonis, Panagiotis A - *Exploring Gene Expression Differences between Dorsal and Ventral Early Lens Regeneration* | **Kennedy Union 312, 13:40-14:00**
- Usman, Muhammad - *Exploring the Sinc-Collocation Method for Solving the Integro-Differential Equation* | **RecPlex, 11:00-12:30**
- Usman, Muhammad - *Numerical solution of the KdV equation with periodic boundary conditions using the sinc-collocation method* | **RecPlex, 11:00-12:30**
- Usman, Muhammad - *Simulation of Nonlinear Waves Using Sinc Collocation-Interpolation* | **RecPlex, 11:00-12:30**
- Villa, Laura - *Linguistic Factors Affecting the Social Status of the Hispanic Immigrant Population in Dayton, OH* | **RecPlex, 11:00-12:30**
- Vorachek, Laura J - *Patriotism and G.K. Chesterton* | **RecPlex, 9:00-10:30**
- Wagner, Peter G - *Becoming a World Citizen through Studying Abroad* | **Miriam Hall 119 - O'Leary Auditorium, 13:00-14:00**
- Wagner, Shelbi J - *String Chamber Music* | **Sears Recital Hall, 11:00-12:00**
- Watkins, David J - *Paying After Freedom: The Post-Revolutionary Issues of Former Socialist States* | **St. Joseph's Hall 221, 16:40-17:00**
- Welkener, Michele M - *The Characteristics of Marianist Education: Finding Sustenance for Faculty Community* | **LTC Team Space, 16:30-18:30**
- Welkener, Michele M - *Faculty Student Services Training: The Fourth Pillar of Faculty Life* | **LTC Team Space, 16:30-18:30**
- Welkener, Michele M - *Preparing Medical Faculty to Teach End-of-Life Care* | **LTC Team Space, 16:30-18:30**
- Welkener, Michele M - *Understanding Veteran Needs for Academic Success* | **LTC Team Space, 16:30-18:30**
- Welkener, Michele M - *"Building and Supporting Faculty & Student-Athlete Relationships"* | **LTC Team Space, 16:30-18:30**
- Welkener, Michele M - *Adjuncts: Part Time, Full Awareness* | **LTC Team Space, 16:30-18:30**
- Whisnant, Rebecca S - *Feminist Social Change: Learning from Activists' Memoirs* | **Kennedy Union 331, 13:00-14:20**
- Whitaker, Jayne Matlack - *Branding: Designing for the Consumer's Perception* | **ArtStreet Studio C, 14:00-14:40**
- Whitaker, Joel A - *Department of Visual Arts, Senior Capstone Projects in Photography* | **ArtStreet Studio B, 14:30-16:30**
- Williams, Patrick K - *Qualitative Assessment of the Past and Present Geomorphological Processes Affecting Silver Lake in Miami County, Ohio* | **RecPlex, 11:00-12:30**
- Williams, Thomas M - *Defining the transcription factor genes and their target gene interactions for a model developmental and evolutionary trait* | **RecPlex, 11:00-12:30**
- Williams, Thomas M - *The mutations, molecular mechanisms, and constraints directing the evolution of a Drosophila cis-regulatory element* | **RecPlex, 11:00-12:30**
- Williams, Thomas M - *Identifying the DNA Sequence Requirements for a Synergistic Interaction Between Two Cis-Regulatory Elements* | **RecPlex, 11:00-12:30**
- Williams, Thomas M - *Red Light, Green Light: A Novel Approach to Study Interactions between Enhancers and Gene Promoters* | **RecPlex, 11:00-12:30**
- Williams, Thomas M - *A Characterization of Regulatory Linkages in a Genetic Network for a Derived Fruit Fly Trait.* | **RecPlex, 11:00-12:30**
- Williams, Thomas M - *The Ancestry and Evolution of the Fruit Fly t\_MSE Cis-Regulatory Element* | **RecPlex, 11:00-12:30**
- Williams, Thomas M - *The Shaping of a Dimorphic Trait: The Evolution of Bab Paralog Expression and Abdominal Pigmentation among Sophophora Fruit Fly Species* | **RecPlex, 11:00-12:30**
- Wu, Shuang-Ye - *Using the SLOSH model to predict flood hazard areas along the New Jersey coast: both present and future risks as sea levels rise* | **RecPlex, 11:00-12:30**
- Yengulalp, Lynne C - *An Aronszajn Tree* | **RecPlex, 11:00-12:30**
- Zhan, Qiwen - *Beam steering by KTN crystal(Potassium tantalate niobate)* | **RecPlex, 11:00-12:30**
- Zhan, Qiwen - *Smartphone Based Optical Sensor* | **LTC Meeting Space, 13:00-13:20**
- Zhan, Qiwen - *Optical System for Arbitrarily Complex Optical Vector Field Generation* | **Kennedy Union 222, 15:20-15:40**
- Zhang, Ting J - *Capitalizing on Chaotic Currencies: An Analysis of Algorithmic Trading Before and After the Global Financial Crisis* | **RecPlex, 11:00-12:30**
- Zhang, Ting J - *beta and alpha: using excel to measure portfolio risk and performance* | **Miriam Hall 214, 15:40-16:10**
- Zukowski, Angela Ann - *An Introduction to Art, Culture and Spirituality: An Immersion Experience in Italy* | **RecPlex, 9:00-10:30**



- (i) C4, D6 VISITOR PARKING INFORMATION CENTER**
- (1) C5 JOHN F. KENNEDY MEMORIAL STUDENT UNION Dining and Event Services**
- (2) D6 MARIANIST HALL**
- (3) E7 RECPLEX Recreational Complex**
- (4) B4 ROESCH LIBRARY University Library**
- (5) F4 ARTSTREET**
- (6) C5 CHAPEL OF THE IMMACULATE CONCEPTION**
- (7) D2 COLLEGE PARK CENTER**
- (8) C5 JESSE PHILIPS HUMANITIES CENTER**
- (9) B5 MIRIAM HALL**
- (10) C5 ST. JOSEPH HALL**
- (11) B6 SCIENCE CENTER**



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