



UNDERGRADUATE SYMPOSIUM 37  
EASTERN MICHIGAN UNIVERSITY 2017

# DEAN'S WELCOME

## Welcome to the 37th Undergraduate Symposium!

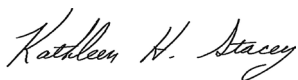
This day of presentations of scholarly and creative activities by our undergraduate students is the culmination of a year-long collaboration between the students and their faculty mentors. The presentations, posters, performances and exhibits illustrate an impressive level of accomplishment as a result of these mentorships. As you explore the extraordinary breadth and depth of student scholarly and creative activity, you will discover the special synergy of teaching and learning that powers this year's Symposium program.

Eastern's Undergraduate Research Symposium is one of the longest standing events of its kind in the country. In 1980, provost and professor of chemistry, Dr. Ronald Collins, conceived the idea of presenting undergraduate student research to the University community, which was supported by president Dr. John W. Porter. Each president and provost has supported the Undergraduate Symposium and acted to enhance its stature. The first event began with a handful of students and faculty mentors from the College of Arts and Sciences. Five years ago, the Undergraduate Symposium expanded beyond oral and poster presentations to include the Crossing Lines Design Expo. This addition engages students whose creative processes involves various 2D and 3D materials.

Many faculty and staff have worked hard to make this Undergraduate Symposium a success. I gratefully acknowledge the efforts of the volunteer Symposium Planning Committee and its chair, Dr. Harriet Lindsay, event coordinator Wendy Kivi and assistant Amy Bearinger, Symposium submission guru John Williams, and the staff of the College of Arts and Sciences Office of the Dean.

The faculty sponsors of the student presenters are the expert core of the Symposium. They deserve special recognition for their voluntary efforts. I also want to recognize the families of the students, and the many sponsors and guests who provided essential support for this event and who are committed to the success of our students in their academic pursuits. A special thank you to donors who have supported the work of 22 Symposium Undergraduate Research Fellows for this academic year.

Most especially, my congratulations to you, our students, who are presenting today!



Kathleen H. Stacey, Interim Dean  
College of Arts and Sciences

# SCHEDULE OF EVENTS

Friday, March 31, 2017

EMU Student Center

## Oral Presentations

Second Floor: Room 204, Auditorium, Student Art Gallery

Third Floor: Rooms 301, 304, 320, 330, 350, 352, Kiva

- |           |                  |
|-----------|------------------|
| Session A | 9-10:15 a.m.     |
| Session B | 10:30-11:45 a.m. |
| Session C | 1:30-2:45 p.m.   |
| Session D | 3-4:15 p.m.      |

## Poster Presentations

Third Floor: Room 310 A/B

- |         |   |
|---------|---|
| Group 1 | 9-10:30 a.m.  |
| Group 2 | 11-11:45 a.m. & 1:30-2:15 p.m.<br>Room closed over luncheon |
| Group 3 | 2:45-4:15 p.m.  |

## Design Expo: Crossing Lines

Third Floor: Room 300 and 302

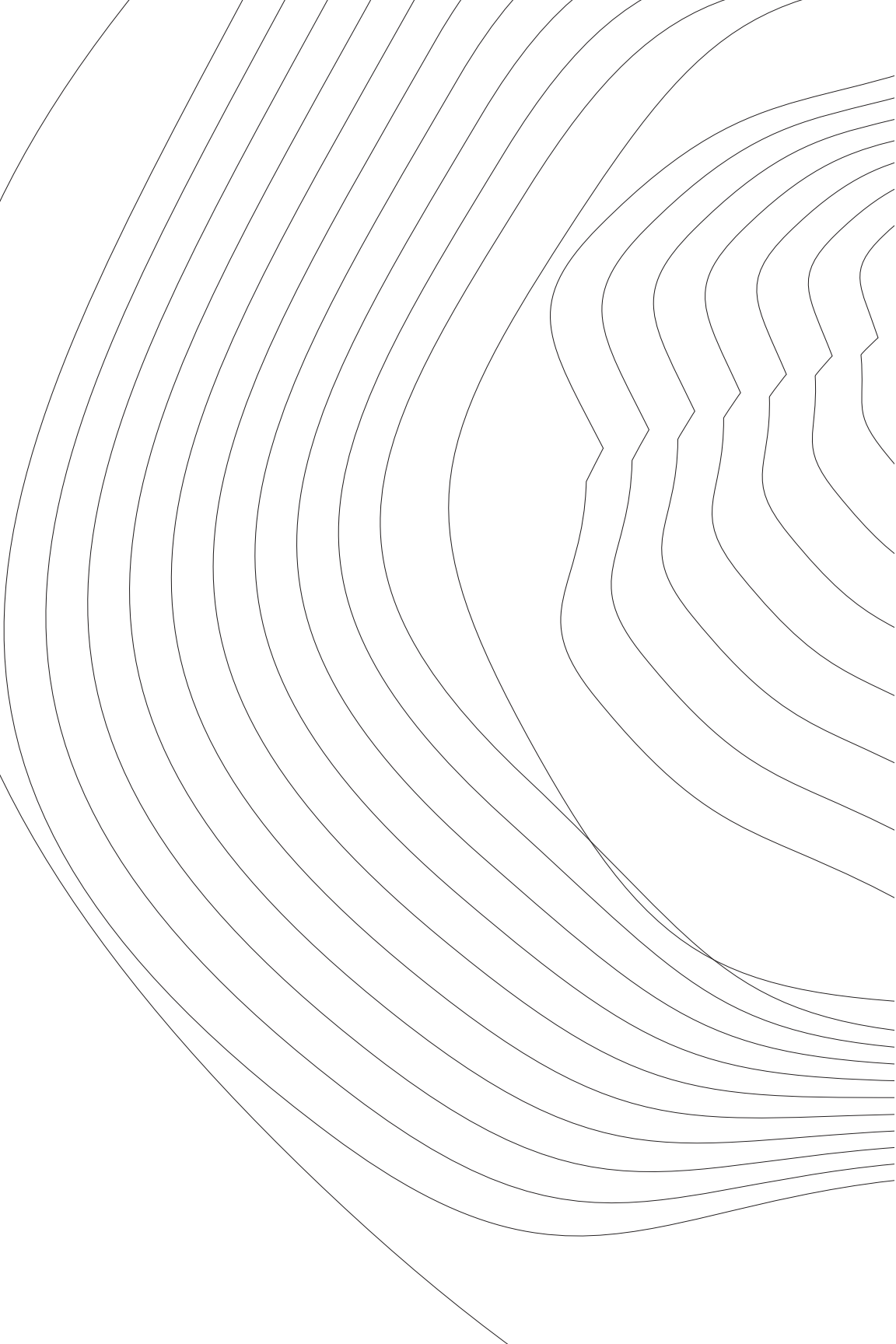
Gallery Exhibit 9 a.m.-4 p.m.

## Symposium Luncheon

Ballroom 12-1:15 p.m.

Keynote speaker: Nathan Bomey  
Business Reporter  
*USA TODAY*

Student emcee: Melissa Dreffs



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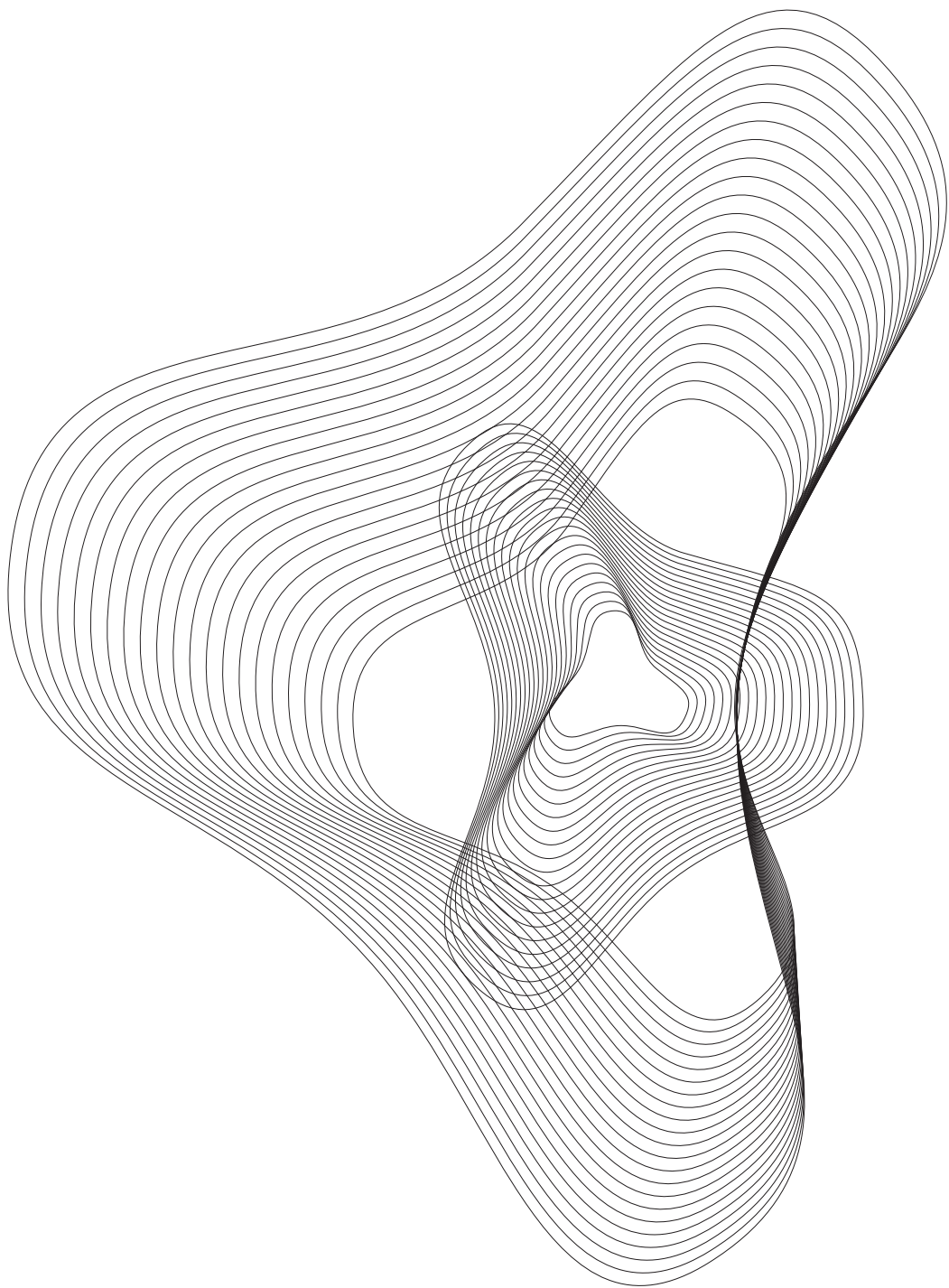
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# SESSION A

## **Room 204 Moderator: Ashley Glassburn Falzetti**

9:00 a.m.

Controversies in Batterer Intervention Programs: Doing Good, Well

**Yeliani Valdez**

Paul Leighton, faculty mentor

Sociology, Anthropology & Criminology

9:15 a.m.

The Impact of Domestic Violence on Self-concept:  
A Feminist Symbolic Interactionist Perspective

**Kali Stanton**

Robert Orrange, faculty mentor

Sociology, Anthropology & Criminology

9:30 a.m.

Reconceptualizing Objectivity and Justice in Feminist Research

**Faith Williams**

Ashley Glassburn Falzetti, faculty mentor

Women's & Gender Studies

9:45 a.m.

Political Climate and Abortion Narratives

**Micaela Stevenson**

Jacqueline Goodman, faculty mentor

Women's & Gender Studies

10:00 a.m.

Behind Healthy Babies

**Hannah Saul**

Kathryn Ziegler, faculty mentor

Women's & Gender Studies

## **Room 301 Moderator: Katherine Ryker**

9:00 a.m.

Anthropogenic Emissions, Climate Change, and Public Opinion

**Leah Underwood**

Katherine Ryker, faculty mentor

Geography & Geology

9:15 a.m.

Analysis of Volcanic Ash

**Conor O'Dowd**

Christine Clark and Katherine Ryker, faculty mentors  
Geography & Geology

9:30 a.m.

Building Geographic Distribution Models of Five Plant  
Genera on Madagascar

**Clarissa Crist**

Margaret Hanes and William Welsh, faculty mentors  
Biology

9:45 a.m.

Training Neural Networks to Identify Types of Mosquitos  
by Their Buzzing

**David Fisher**

Andrew Ross, faculty mentor  
Mathematics

10:00 a.m.

The Effects of Elevated Corticosterone on Social Learning  
in Red Crossbills (*Loxia Curvirostra*)

**Megan Wurtz**

Jamie Cornelius, faculty mentor  
Biology

**Room 304 Moderator: Ronald Delph**

9:00 a.m.

Matilda of Tuscany: A Woman of Great Power

**Lindsay Dascola**

Ronald Delph, faculty mentor  
History & Philosophy

9:15 a.m.

Eleanor of Aquitaine: A Female Medieval Powerhouse

**Julie Mann**

Ronald Delph, faculty mentor  
History & Philosophy



9:30 a.m.

Women and Athletics: Analyzing Media's Image of Female Athletes

**Rebecca Middleton**

Christopher Robbins, faculty mentor

Teacher Education

9:45 a.m.

The Prison of Culturally Mandated Female Roles:  
Two Fictional Girls Using Education to Break Free

**Susan Dodge-Doak**

Ramona Caponegro, faculty mentor

English Language & Literature

10:00 a.m.

Subjectivity and Mutuality: Feminist Theology in Film

**Aine Keefer**

Margaret Crouch, faculty mentor

History & Philosophy

## **Room 320 Moderator: Carol Schlagheck**

9:00 a.m.

Two Weeks Notice: A Study of Voluntary Employee  
Turnover in Fast Food Restaurants

**Patricia Mulroy**

Xianghong Feng, faculty mentor

Sociology, Anthropology & Criminology

9:15 a.m.

Characteristics Reported on Residency Applications that Predict  
Successful Family Medicine Residents

**Suzy McTaggart**

Khairul Islam, faculty mentor

Mathematics

9:30 a.m.

Circumstances Affecting College Students' Residential Choices

**Victoria Warnecke**

Luis Sfeir-Younis, faculty mentor

Sociology, Anthropology & Criminology

9:45 a.m.

Student Housing Options On and Off Campus

**Rebekah Kakos**

Carol Schlagheck, faculty mentor

Communication, Media & Theatre Arts

10:00 a.m.

Eastern Michigan University Convocation Center:

Back to School Concert

**Evan Ficaj**

Michael Tew, faculty mentor

Communication, Media & Theatre Arts

**Room 330 Moderator: Rebecca Sipe**

9:00 a.m.

An Examination of the Black Honors Student Experience at a  
Predominantly White Institution

**Brandie Bentley**

Yvette Colon, faculty mentor

Social Work

9:15 a.m.

Standard English Usage Variation in the EMU Student Body  
and Its Implications

**Amelia Stecker**

Eric Acton, faculty mentor

English Language & Literature

9:30 a.m.

Self-Care in a Holistic Sense: College Life, Leadership,  
and Social Life

**Brianna Moore**

John Sonnega, faculty mentor

Health Promotion & Human Performance

9:45 a.m.

Understanding the Communication Methods and Leadership Styles of EMU's Honors College Student Fellow Program

**Lauren Renou**

Linda Foran, Dennis O'Grady, Jackie Tracy  
and Rebecca Sipe, faculty mentors  
Communication, Media & Theatre Arts, and  
Leadership & Counseling

10:00 a.m.

Streamlining the Honors Exit Interview Process

**Christina Spalding and John Davis**

Krish Narayanan, faculty mentor  
Computer Science

### **Room 350 Moderator: Barry Pyle**

9:00 a.m.

Exploring African American Boys' Resilience in Secondary Education

**Akintunde Oluwadare**

Charles Graham, faculty mentor  
Social Work

9:15 a.m.

Emmett Till: Then and Now

**Annie Somerville**

Barry Pyle and Barbara Patrick, faculty mentors  
Political Science

9:30 a.m.

Can You Hear Us Now?: Engaging African American Youth Voices in Urban Communities and Schools

**Alyssia Hence**

Celeste Hawkins, faculty mentor  
Social Work

9:45 a.m.

Moving Toward Equality: Civil Rights Movements in the United States and South Africa

**Sarah Reasoner**

Barry Pyle, faculty mentor  
Political Science

10:00 a.m.

Racial Climate on Campus at Eastern Michigan University

**Akintunde Oluwadare**

Marcia Bombyk, faculty mentor

Social Work

**Room 352 Moderator: Victor Okafor**

9:00 a.m.

The Effects of U.S. Development in Sub-Saharan Africa

**Deborah Munganga**

Judith Kullberg, faculty mentor

Political Science

9:15 a.m.

The Prospects and Challenges of an African Renaissance

**Brittany Floyd**

Victor Okafor, faculty mentor

Africology & African American Studies

9:30 a.m.

Environmental Degradation and the Progression of  
Inequality in Hebei, China

**Summer Smith**

Xianghong Feng, faculty mentor

Sociology, Anthropology & Criminology

9:45 a.m.

Investigating the U.S.-China Import-Export Disparity

**Safa Muhammad**

Khairul Islam, faculty mentor

Accounting & Finance

**Auditorium Moderator: Carter Eggers**

9:00 a.m.

A Study of the Physiological Effects of Researcher-Selected Music  
vs. Subject-Selected Music

**Nora Elkanick**

Theresa Merrill, faculty mentor

Music & Dance

9:15 a.m.

Historical Context of *Sonetto 104 Del Petrarca* By Franz Liszt

**Emily Katynski**

Joel Schoenhals, faculty mentor

Music & Dance

9:30 a.m.

*Concerto in Eb Major, Movement 1: Allegro Con Spirito*

by Johann Nepomuk Hummel

**Roger Vajda**

Carter Eggers, faculty mentor

Music & Dance

9:45 a.m.

Russian Nationalism in the Art and Music of *Pictures at an Exhibition*

**Anna Elkins**

Joel Schoenhals, faculty mentor

Music & Dance

10:00 a.m.

*Sedución*, by Miguel del Águila, the Latin Influence on

Contemporary Chamber Music

**William Mufarreh and Joshua Lockhart**

Kristin Reynolds, faculty mentor

Music & Dance

## **Student Art Gallery Moderator: Jeffrey Bernstein**

9:00 a.m.

Beyond Shelby County: The Effects of a Weakened Voting Rights Act

**Anthony Gonzalez**

Beth Henschen, faculty mentor

Political Science

9:15 a.m.

Votes of Color: An Examination of Voter Suppression

in Communities of Color

**Kristofer Lane**

Dyann Logwood, faculty mentor

Women's & Gender Studies

9:30 a.m.

Campaigns and Constituents: An In-Depth Look at What Constitutes Equal Representation in America

**Kellie Majcher**

Edward Sidlow, faculty mentor

Political Science

9:45 a.m.

Effects of Political Issues on Voting

**Alexander Henry**

Jeffrey Bernstein, faculty mentor

Political Science

10:00 a.m.

How Social Media has Affected U.S. Diplomacy

**Tiffany Ozog**

Judith Kullberg, faculty mentor

Political Science

## SESSION B

### **Room 204 Moderator: Bernard Miller**

10:30 a.m.

Examining the Schlemiel: Gimpel and More

**Sera Shearer**

Marty Shictman, faculty mentor

Jewish Studies

10:45 a.m.

"It is No Bedtime Story": The Roots of J. R. R. Tolkien's *Legendarium* in Children's Literature

**Dominic Meo**

Ramona Caponegro, faculty mentor

English Language & Literature

11:00 a.m.

Critical Tectonics: Finding Fault in Jameson's Archaeologies and "Progress"

**Nicholas van der Waard**

Bernard Miller, faculty mentor

English Language & Literature

11:15 a.m.

*Raisel's Riddle: Adapting Cinderella to Educate About the Jewish Culture*

**Kristine Gatchel**

Jessica De Young Kander, faculty mentor  
English Language & Literature

11:30 a.m.

*American Stereotypes of Jewish Women: Modern Antisemitism and Its Affect on Jewish Culture*

**Emily Franchy**

Jessica De Young Kander, faculty mentor  
Jewish Studies

### **Room 301 Moderator: Joseph Engwenyu**

10:30 a.m.

*Does Oil Hinder Democracy?*

**Jessica Lohr**

Ebrahim Soltani, faculty mentor  
Political Science

10:45 a.m.

*Birthing the Intifada: The Reproductive Social Non-Movement of Palestinian Women*

**Hana Kamel**

Ebrahim Soltani, faculty mentor  
Political Science

11:00 a.m.

*Cohesive Selves: Identity Formation of Punjabi Sikh Families in Southeast Michigan After 9/11*

**Bethany Preston**

Maria Luz Garcia, faculty mentor  
Sociology, Anthropology & Criminology

11:15 a.m.

*Strikes and Popular Unrest in the Belgian Congo during World War II*

**Deborah Munganga**

Joseph Engwenyu, faculty mentor  
History & Philosophy

**Room 304 Moderator: Laura George**

10:30 a.m.

The Historical Impact of Women on the Civil Rights Movement

**Annie Somerville and Emily Kindred**

Barry Pyle and Barbara Patrick, faculty mentors

Political Science

10:45 a.m.

Is This a Man's World?

**Anna Kozak**

Jeff Bernstein, faculty mentor

Political Science

11:00 a.m.

Coffee, Tea, or Me: The Implications of Gender Stereotypic Norms in the Flight Attendant Role

**Linda LaRew**

Natalie Dove, faculty mentor

Psychology

11:15 a.m.

The Nature of Identity: Ecofeminism, Women's Poetry and The Power of Reclaiming Common Oppressions

**Jessica Dailey**

Laura George, faculty mentor

English Language & Literature

11:30 a.m.

The Evolution of Black Feminism in Society and the Role it has Played in Interpersonal Relationships

**Sina Webster**

Dyann Logwood and Yvette Colon, faculty mentors

Social Work

**Room 320 Moderator: Sadaf Ali**

10:30 a.m.

Sharecropping Blackness: White Supremacy and the Hyper-Consumption of Black Popular Culture

**Nyambura Njee**

Dyann Logwood, faculty mentor

Africology & African American Studies



10:45 a.m.

The History of Black!Hermione: How Fandoms Influence Media

**Sarah Coury**

Annette Wannamaker, faculty mentor

English Language & Literature

11:00 a.m.

African American Language and Identity on *Black-ish*

**Hope Coulter**

Eric Acton, faculty mentor

English Language & Literature

11:15 a.m.

The Rise of the Bullet Proof Hero

**Jordan Causey**

Sadaf Ali, faculty mentor

Communication, Media & Theatre Arts

11:30 a.m.

Socioeconomic Influence on Parenting Styles and  
Its Manifestation in Child Depression and Anxiety

**Jasmine Stout, Alyssia Hence and Ivan LeBron**

Heather Neff, faculty mentor

Social Work

### **Room 330 Moderator: Jacqueline LaRose**

10:30 a.m.

Richard Floethe, Anthony Velonis, and the WPA Poster Project

**Mary Elton**

Leslie Atzmon, faculty mentor

Art & Design

10:45 a.m.

Assessing the Political Discourse of Keith Haring's Graphic Design

**Scott Schlueter**

Leslie Atzmon, faculty mentor

Art & Design

11:00 a.m.

From Fatuous to Flourishing Form: An Independent Study  
of Graphic Novels in Literacy Teaching

**C.J. Snow**

Jacqueline LaRose, faculty mentor

Teacher Education

11:15 a.m.

*Ferric*: A Speculative Novella

**Brianna Sohl**

Matthew Kirkpatrick, faculty mentor

English Language & Literature

11:30 a.m.

1940s Dating Culture and Panopticism in *Seventeenth Summer*

**Josiah Pankiewicz**

Amanda Allen, faculty mentor

English Language & Literature

## **Room 350 Moderator: Dennis O'Grady**

10:30 a.m.

Black Girl Magic: African American Fashion Designer Pioneers

**Jasmine Billings**

Holly Mosher and Julie Becker, faculty mentors

Visual & Built Environments

10:45 a.m.

The CAD Patterning Process

**Lilly DeRamos**

Julie Becker and Holly Mosher, faculty mentors

Visual & Built Environments

11:00 a.m.

An International Analysis of CSR Rankings and a Country's Culture

**Victoria Fisher**

Lois Mahoney and Joseph Scazzero, faculty mentors

Accounting & Finance

11:15 a.m.

Is Death Spiral Financing the Best Option for  
Lenders and Borrowers?

**Austin Dwyer**

Yu Zhang, faculty mentor

Accounting & Finance

11:30 a.m.

Sexting as Relational Communication in Long-Term  
Romantic Relationships

**Catie Cole**

Dennis O'Grady, faculty mentor

Communication, Media & Theatre Arts

## **Room 352 Moderator: Kristin Judd**

10:30 a.m.

Environmental Variables and Their Effect on Cyanobacteria  
Populations in 13 Stratified Lakes

**Jacob Kowalczyk, Joseph Proietti and Richard Wagner**

Jose Vites and Steven Francoeur, faculty mentors

Chemistry

10:45 a.m.

Pinpointing and Mapping Areas for Wetland Restoration in the  
Western Lake Erie Basin: A GIS Approach

**Jennifer Harper**

Xining Yang, faculty mentor

Interdisciplinary Environmental Science & Society

11:00 a.m.

X-Site Over-Occupancy in Povondraite

**Matthew Schiffert**

Christine Clark, faculty mentor

Geography & Geology

11:15 a.m.

Nitrate Decreases Methane Production and Increases  
Denitrification in Wetlands

**Jaymes Dempsey**

Kristin Judd, faculty mentor

Biology

11:30 a.m.

Benthic Invertebrates Along a Depth Gradient in Lake Champlain:  
2016 vs. 1991

**Jennifer Knight**

Kristin Judd, faculty mentor

Biology

### **Auditorium Moderator: Garik Pedersen**

10:30 a.m.

*Walk the Walk*: Reflections on the Sounds of Motown

**Alexander Pratt, Caleb Lucido and Eric VanWormer**

Woody Chenoweth, faculty mentor

Music & Dance

10:45 a.m.

Romeo Re-Imagined

**Rebecca Myers and Clarice Weiseman**

Monica Swartout-Bebow, faculty mentor

Music & Dance

11:00 a.m.

*Fantasiestücke*, Op. 12 by Robert Schumann

**Megan Angriawan**

Garik Pedersen, faculty mentor

Music & Dance

11:15 a.m.

An Echo of Mind and Creativity: A Look into Music Composition  
and Turning Thoughts into Music

**Timothy Mullins**

Julie Stone, faculty mentor

Music & Dance

11:30 a.m.

Dance Composition Solos

**Natalia De Miguel Annoni, Emily Prueter, Hannah Reynolds  
and Amani Eggleston**

Apryl Seech Pipe, faculty mentor

Music & Dance

**Kiva Moderator: Richard Stahler-Sholk**

10:30 a.m.

The Effects that War has on Children and Child Soldiers

**Breanna Kingsley**

Volker Krause, faculty mentor

Political Science

10:45 a.m.

A Crime of Its Own: The Denial of Genocide

**Kory Salagean**

Richard Stahler-Sholk, faculty mentor

Political Science

11:00 a.m.

Developing Countries

**Kangkana Koli**

Richard Stahler-Sholk, faculty mentor

Political Science

11:15 a.m.

The Kingdom of Jerusalem

**Cecilia Lawrence**

Ronald Delph, faculty mentor

History & Philosophy

11:30 a.m.

The Canonization and Cult Origins of Saint Louis IX

**Ashley Vought**

Ron Delph, faculty mentor

History & Philosophy

**Student Art Gallery Moderator: Margrit Zinggeler**

10:30 a.m.

“Stereotypisch Deutsch”: An Examination of Stereotypes of Germans and the Effects in the Business Environment

**Alicia Marvinez**

Margrit Zinggeler, faculty mentor

World Languages

10:45 a.m.

Walt Disney Wasn't the First: The Incredible Untold Story  
of German Filmmaker Lotte Reiniger

**Meara Pellar-Kosbar**

Margrit Zinggeler, faculty mentor

World Languages

11:00 a.m.

The Influences of Auto Shows

**Morgan Day**

Margrit Zinggeler, faculty mentor

World Languages

11:15 a.m.

Musicology during the Third Reich

**Katelin Webster**

Jesse Kauffman, faculty mentor

History & Philosophy

11:30 a.m.

Soldiers of the Bauhaus

**Alexandra Fogarasi**

Brendan Fay, faculty mentor

Art & Design

## SESSION C

### **Room 204 Moderator: Heather Neff**

1:30 p.m.

Historic Rural Landscapes of Willow Metropark

**Rachel Dudzik**

Bradley Ensor, faculty mentor

Sociology, Anthropology & Criminology

1:45 p.m.

Regional Interaction and Pottery at a Prehistoric Late  
Woodland Site in Southeast Michigan

**Julia Joblinski**

Bradley Ensor, faculty mentor

Sociology, Anthropology & Criminology

2:00 p.m.

Maturational Timing and Adolescent Swim Performance

**Sierra Wagner**

Andrew Cornett, faculty mentor

Health Promotion & Human Performance

2:15 p.m.

Our Self-Understanding Revealed through  
Contemporary Architecture

**Dylan Delikta**

Laura McMahan, faculty mentor

History & Philosophy

2:30 p.m.

The Use of Caffeine in Olympic Sports

**Victoria Fields and Chelsey Eatmon**

Heather Neff, faculty mentor

Health Promotion & Human Performance

**Room 301 Moderator: Brian Bruya**

1:30 p.m.

The Kantian Solution to Hegel's Primitive Problems of  
Mutual Recognition

**Hailey Hawes**

Laura McMahan, faculty mentor

History & Philosophy

1:45 p.m.

Daoism and the Primordial Question

**Katelyn Pyles**

Brian Bruya, faculty mentor

History & Philosophy

2:00 p.m.

Analyzing Counter Improvised Explosive Device Equipment  
for Effectiveness in Preventing Casualty

**Roxanne Reinhardt**

Megan Moore, faculty mentor

Sociology, Anthropology & Criminology

2:15 p.m.

The Effect of Polycystic Ovarian Syndrome (PCOS) on  
Bone Mineral Density of the Skeleton

**Sarah Bruckler**

Megan Moore, faculty mentor

Sociology, Anthropology & Criminology

2:30 p.m.

Postcranial Metric Sex Estimation among the  
Chiribaya of Southern Peru

**Jessica Lacerte**

Megan Moore, faculty mentor

Sociology, Anthropology & Criminology

**Room 304 Moderator: Xining Yang**

1:30 p.m.

In Defense of Helen Longino's Theory of Objectivity

**Michaela Repaska**

John Koolage, faculty mentor

History & Philosophy

1:45 p.m.

Collection and Analysis of Morphometric Data for the Fossil  
Macroalga Marpolia

**Sarah Williamson**

Steven LoDuca, faculty mentor

Geography & Geology

2:00 p.m.

Mapping the Effects of Climate Change on the Great Lakes using  
Geographic Information System

**Grace Nicholas**

Xining Yang, faculty mentor

Geography & Geology

2:15 p.m.

High-Altitude Balloon Launch

**John Davis and Tyler Fullington**

Dave Pawlowski, faculty mentor

Physics & Astronomy



2:30 p.m.

Analysis of the Sensitivity of Mars's Neutral Atmosphere in Response to Solar Input

**Matthew Burton**

Dave Pawlowski, faculty mentor

Physics & Astronomy

### **Room 320 Moderator: Regina Luttrell**

1:30 p.m.

Intrigue or Intrusion: Relevance of Online Advertising

**Madison Harmon**

Amanda Karel, faculty mentor

Communication, Media & Theatre Arts

1:45 p.m.

Your Advertisement is Trending #ShandySelfie

**David Howard, Brittany Knox, Shelby Adkins**

**Stefanie Barcelos and Zaeem Zafar**

In Memoriam Sheila Sasser, faculty mentor

Lewis Hershey, faculty mentor

Marketing

2:00 p.m.

Amanda Palmer's Volunteer Advertisement

**Michael Neal**

Anke Wolbert, faculty mentor

Communication, Media & Theatre Arts

2:15 p.m.

*Gilmore Girls*: Road to the Revival

**Courtney Schultz, Hope Salyer, Nicole Raymond,**

**Josie Bobeck and Leena Johnson**

Regina Luttrell, faculty mentor

English Language & Literature

2:30 p.m.

Harambe, Gorilla Down: Cincinnati Zoo Fights to Protect Reputation

**Nina Drumsta, Brandon Lazovic,**

**Jordan Ross and Carlita Jones**

Regina Luttrell, faculty mentor

English Language & Literature

**Room 330 Moderator: Caren L. Putzu**

1:30 p.m.

Learning is Not Child's Play: Assessing the No Child Left Behind Act

**Gwendolyn Dean**

Barbara Patrick, faculty mentor

Political Science

1:45 p.m.

But What about College Readiness? A Policy Analysis of the No Child Left Behind Act

**Jasmine Stout**

Caren L. Putzu, faculty mentor

Social Work

2:00 p.m.

The True Cost of Early Childhood Education

**Danielle Mijnsbergen, Megan Zydeck and Alexa Markley**

Martha Baiyee, faculty mentor

Teacher Education

2:15 p.m.

Children's Acquisition of Resultative Adjectives

**Connor De Haan, Marley Beaver, Allyson Brown  
and Anna Mae Bower**

Daniel Seely, faculty mentor

English Language & Literature

2:30 p.m.

Activism, Cultural Awareness and Special Education:  
At the Crossroads

**Michaella Williamson**

Phil Smith, faculty mentor

Special Education

**Room 350 Moderator: Beverley Goodman**

1:30 p.m.

Why The "Simplest" Writing System Isn't So Simple After All

**Eli Rodriguez**

Beverley Goodman, faculty mentor

English Language & Literature

1:45 p.m.

Exploring English Language Education in Japan

**Ryotaro Amano**

Cynthia J. Macknish, faculty mentor

World Languages

2:00 p.m.

Japanese Syllable Structure and How Constraints on Syllable Weight Impact Word-Borrowing

**Cassidy Creech**

Beverly Goodman, faculty mentor

English Language & Literature

2:15 p.m.

Heard It through the Grapevine: Theoretical Research of Idioms and Metaphor as It Relates to Culture

**Sebah Ghannam and Lauren Jones**

Genevieve Peden, faculty mentor

World Languages

2:30 p.m.

All About Dat Bass or Linguistic Blackface: White Pop Artists and African American English

**Sovoya Davis**

Eric Acton, faculty mentor

English Language & Literature

## **Room 352 Moderator: Jeffrey Bernstein**

1:30 p.m.

Nutritious and Delicious: Greek Yogurt Chicken Salad Sandwiches

**Cassandra Rivard**

Alice Jo Rainville, faculty mentor

Health Sciences

1:45 p.m.

How Food Cooperatives are Helping Resolve Global Food Issues through Advocacy and Education

**Leaha Dotson**

Jill Dieterle, faculty mentor

History & Philosophy

2:00 p.m.

A Comparison of Foods Provided by Ypsilanti Meals on Wheels with Foods Consumed

**Gretchen Wiese and Kendra Seagraves**

Heather Hutchins-Wiese, faculty mentor

Health Sciences

2:15 p.m.

Poverty Discrepancies in the USA: An Analysis of Selected Characteristics

**Aimee Martinez**

Khairul Islam, faculty mentor

Accounting & Finance

2:30 p.m.

Increased Income Inequality in the United States has Led to Increased Food Insecurity

**Leaha Dotson**

Jeffrey Bernstein, faculty mentor

Political Science

### **Auditorium Moderator: Anita Rich**

1:30 p.m.

*Suite No. 2 in D minor, BWV 1008*, by Johann Sebastian Bach (1675-1750)

**Thomas Loescher**

Deborah Pae, faculty mentor

Music & Dance

1:45 p.m.

Seeing Eye to Eye: Dialogic Engagement and Tom Hansen's "Crying Uncle"

**Jasmyn Barringer**

Anita Rich, faculty mentor

Communication, Media & Theatre Arts

2:00 p.m.

Getting to Know Ross Gay: Poetry, Process, and Pedagogy

**Amanda Weise**

Elisabeth Däumer, faculty mentor

English Language & Literature

2:15 p.m.

The Cost of a Dream

**Zachary Bennett**

Christine Hume, faculty mentor  
English Language & Literature

2:30 p.m.

How to Listen With Your Ears: An Exploration of Sound Poetry

**Chloe McCrystal**

Christine Hume, faculty mentor  
English Language & Literature

**Kiva Moderator: Paul Leighton**

1:30 p.m.

When Will the Unjust Killings Stop?

**Andrew Potter**

Kathy Peterson, faculty mentor  
Political Science

1:45 p.m.

Grieving When Your Child is Killed by the Police

**Lashawn Solomon**

Stephanie Wladkowski, faculty mentor  
Social Work

2:00 p.m.

And Justice for All? Race, Racism, Gender, and  
Police Brutality in America

**Simone Tisder**

Brian Sellers and Paul Leighton, faculty mentors  
Sociology, Anthropology & Criminology

2:15 p.m.

Analyses of America's Corporations Practicing Injustice through  
Privatization of Prisons

**Nadia Ansari**

Paul Leighton, faculty mentor  
Sociology, Anthropology & Criminology

2:30 p.m.

Societal Perception of Prison Life versus Reality

**Max Rickard**

Carey Ford, faculty mentor

Sociology, Anthropology & Criminology

**Student Art Gallery Moderator: Bernard Miller**

1:30 p.m.

Human Nature and Justice: The Implications of Praxis as Nature upon Disability Studies

**Aine Keefer**

Peter Higgins, faculty mentor

History & Philosophy

1:45 p.m.

Sensory Processing Disorder in Adults: The Importance of Specialized Diagnostics and Treatment

**Anna Machasic**

Bernard Miller, faculty mentor

English Language & Literature

2:00 p.m.

Cultivation of Self-Determination and Self-Advocacy of Students with Disabilities

**Stephanie Porcari**

Loreena Parks, faculty mentor

Special Education

2:15 p.m.

Disability and Diversity: What Students with Intellectual Disabilities Can Teach Us

**Katrinna Withrow**

Jacquelyn McGinnis, faculty mentor

Special Education

2:30 p.m.

Hearing Loss: The Silent Health Disparity

**Katherine Valek**

D. Marty Raymond III, faculty mentor

Nursing

# SESSION D

## **Room 204 Moderator: Martha Baiyee**

3:00 p.m.

On Evolution and Assumptions: Pre-Service Teachers' Knowledge of Bird and Reptile Morphology and Evolution

**Abigail Melnik**

Katherine Ryker, faculty mentor  
Geography & Geology

3:15 p.m.

A Study of Pre-Service Teachers' Opinions on Carbon Dioxide Emissions and Human Activity

**Susan Ervin**

Katherine Ryker, faculty mentor  
Geography & Geology

3:30 p.m.

The Influence of How We Think About Elementary Classrooms, Science, and Math on Learning

**Stephanie Porcari**

Katherine Ryker, faculty mentor  
Geography & Geology

3:45 p.m.

Children's Literature as a Tool to Teach Mathematics

**Kara Weinstien**

Stephen Blair, faculty mentor  
Mathematics

4:00 p.m.

The Life of a Teacher: A Life of Leadership

**Brandon Eldridge**

Martha Baiyee, faculty mentor  
Teacher Education

## **Room 301 Moderator: Dave Pawlowski**

3:00 p.m.

NASA University Student Design Challenge Introduction

**Donald Anderson and Dominic Lesniak**

Dave Pawlowski, faculty mentor  
Physics & Astronomy

3:15 p.m.

NASA University Student Design Challenge Airbus

**Jared Powell and Blake Hendrix**

Dave Pawlowski, faculty mentor

Physics & Astronomy

3:30 p.m.

An Approach Towards Security on a Connected Highway

**Raymond Willett**

Biswajit Panja, faculty mentor

Computer Science

3:45 p.m.

The Impact of Green Businesses on the Building  
of Sustainable Communities

**Emily Plummer**

Lisa Barley, faculty mentor

Management

## **Room 304 Moderator: Richard Stahler-Sholk**

3:00 p.m.

Colombia's Peace Process: Political and Social Fragmentation as  
Obstacle to Lasting Peace

**Maria Paula Perdomo-Garcia**

Richard Stahler-Sholk, faculty mentor

Political Science

3:15 p.m.

Civil Engagement in Argentina After the Last Dictatorship

**Emily Hoffer**

Richard Stahler-Sholk, faculty mentor

Political Science

3:30 p.m.

Cuban Society and Global Markets: A Historically Disconnected  
Relationship Bringing Vast Change

**Melissa Dreffs**

Richard Stahler-Sholk, faculty mentor

Political Science



3:45 p.m.

Environmental Degradation, Social Deprivation, and the Developmental Process

**Derek McPherson**

Richard Stahler-Sholk, faculty mentor

Political Science

4:00 p.m.

Guatemalan Power Dynamics for the Native Population

**Matthew Neuvirth**

Zachary Moore, faculty mentor

Geography & Geology

### **Room 320 Moderator: Hedeel Evans**

3:00 p.m.

Expanding the Tree of Life on Madagascar with *Megistohibiscus*

**Nicholas Drews**

Margaret Hanes, faculty mentor

Biology

3:15 p.m.

Effect of CD40 Silencing on MAV-1 Replication in Murine Macrophage Cells

**Andre Obua**

Michael Angell, faculty mentor

Biology

3:30 p.m.

Molecular Characterization of UHRF1 and UHRF2 in Cancer

**Ahmed Mohamed**

Brittany Albaugh, faculty mentor

Chemistry

3:45 p.m.

Understanding the Interaction Interface between Two Dopamine Receptors Implicated in Depression

**Adam Baraka**

Hedeel Evans and Deborah Heyl-Clegg, faculty mentors

Chemistry

4:00 p.m.

Effect of Negative Social Feedback on Performance on the PASAT-C

**Rachel Taylor**

Thomas Waltz, faculty mentor

Psychology

**Room 330 Moderator: Jessica De Young Kander**

3:00 p.m.

It's All Fun and Games: An Exploration of the Golem in Gaming

**Sarah Coury**

Jessica De Young Kander, faculty mentor

English Language & Literature

3:15 p.m.

The Chinese Room Experiment Explained

**Lauren Williams**

John Koolage, faculty mentor

History & Philosophy

3:30 p.m.

Building Your Custom Digital Portfolio

**Brendan Kennedy**

Jeremy Catarino, faculty mentor

Visual & Built Environments

3:45 p.m.

Removing the Human Pilot: Automation in Contemporary Aviation

**Christopher Line**

Christina Wall, faculty mentor

Technology & Professional Services Management

4:00 p.m.

Anomaly Detection and Diagnosis of False Data Injection

Attacks in a Smart Grid Environment

**Richard Kalvaitis**

Samir Tout, faculty mentor

Information Security & Applied Computing

**Room 350 Moderators: Elisabeth Däumer  
and Carla Damiano**

3:00 p.m. Panel:

International Jewish Women's Writing

Elisabeth Däumer and Carla Damiano, faculty mentors  
English Language & Literature, Jewish Studies,  
and World Languages

Intersectionality of Jewish Women in Ruth Kluger's *Still Alive*  
and Anzia Yezierska's *Bread Givers*

Matthew Benkarski

The Natural World in Gertrud Kolmar's *A Jewish Mother from Berlin*

Krystin Frane

Dante's *Inferno* in Liana Millu's *Smoke over Birkenau*

Arica Frisbey

Silence as Means of Survival in Fascist Italy:

Elsa Morante's *History: A Novel*

Ashley Horn

Gendered Memory in Liana Millu's *Smoke Over Birkenau*  
and Primo Levi's *Surviving Auschwitz*

Andrea Nicholson

**Room 352 Moderator: Jeffrey Bernstein**

3:00 p.m.

Cross Pressured: The Heteronomy of Perspectives on LGBT+ Issues

Josi Ezinga, Kristen Hudecz and Monica Laschober

Jeffrey Bernstein, faculty mentor

Political Science

3:15 p.m.

State Adoption of Religious Freedom Restoration Acts

Madelaine Coy

Barry Pyle, faculty mentor

Political Science

3:30 p.m.

Homonormativity: The New "Hetero" in Cinema

Katelyn Pyles

Margaret Crouch, faculty mentor

History & Philosophy

3:45 p.m.

The Age of Olympic Intersex Athletes

**Victoria Fields**

Melissa Mantei, faculty mentor

Communication, Media & Theatre Arts

4:00 p.m.

A History of U.S. Transgendered Military Members

**Erin McGuire**

John McCurdy, faculty mentor

History & Philosophy

### **Auditorium Moderator: Christine Hume**

3:00 p.m.

Critical Sound Engagement

**Candace Pruitt**

Christine Hume, faculty mentor

English Language & Literature

3:15 p.m.

In Medias

**Nick Hart**

Christine Hume, faculty mentor

English Language & Literature

3:30 p.m.

Sound Poetry: Identity and the Loss of Agency

**Abigail Vollick**

Christine Hume, faculty mentor

English Language & Literature

3:45 p.m.

Liminality in the Mosh: Neoliberalism, Alienation, and Heavy Metal

**Tristan Leighton**

Xianghong Feng, faculty mentor

Sociology, Anthropology & Criminology

4:00 p.m.

"We're Not Gonna Take It": An Examination of Congress and

Controversial Music

**Elizabeth Krochmalny**

Beth Henschen, faculty mentor

Political Science

**Student Art Gallery Moderator: Anke Wolbert**

3:00 p.m.

The Nature of Turkish Literati's Response to  
Turkish Language Reform

**Abigail Vermeulen**

John Knight, faculty mentor

History & Philosophy

3:15 p.m.

Nationalism and the Bosnian Genocide: An Oral History

**Edin Bukva**

Matthew Penix, faculty mentor

History & Philosophy

3:30 p.m.

Khadar's Speech for Reform to the Court of Harun ar-Rashid

**Michael Criscenti**

Mark Whitters, faculty mentor

History & Philosophy

3:45 p.m.

The Thin Blue Line: A Visual Rhetorical Criticism

**Kathleen Nymberg**

Anke Wolbert, faculty mentor

Communication, Media & Theatre Arts

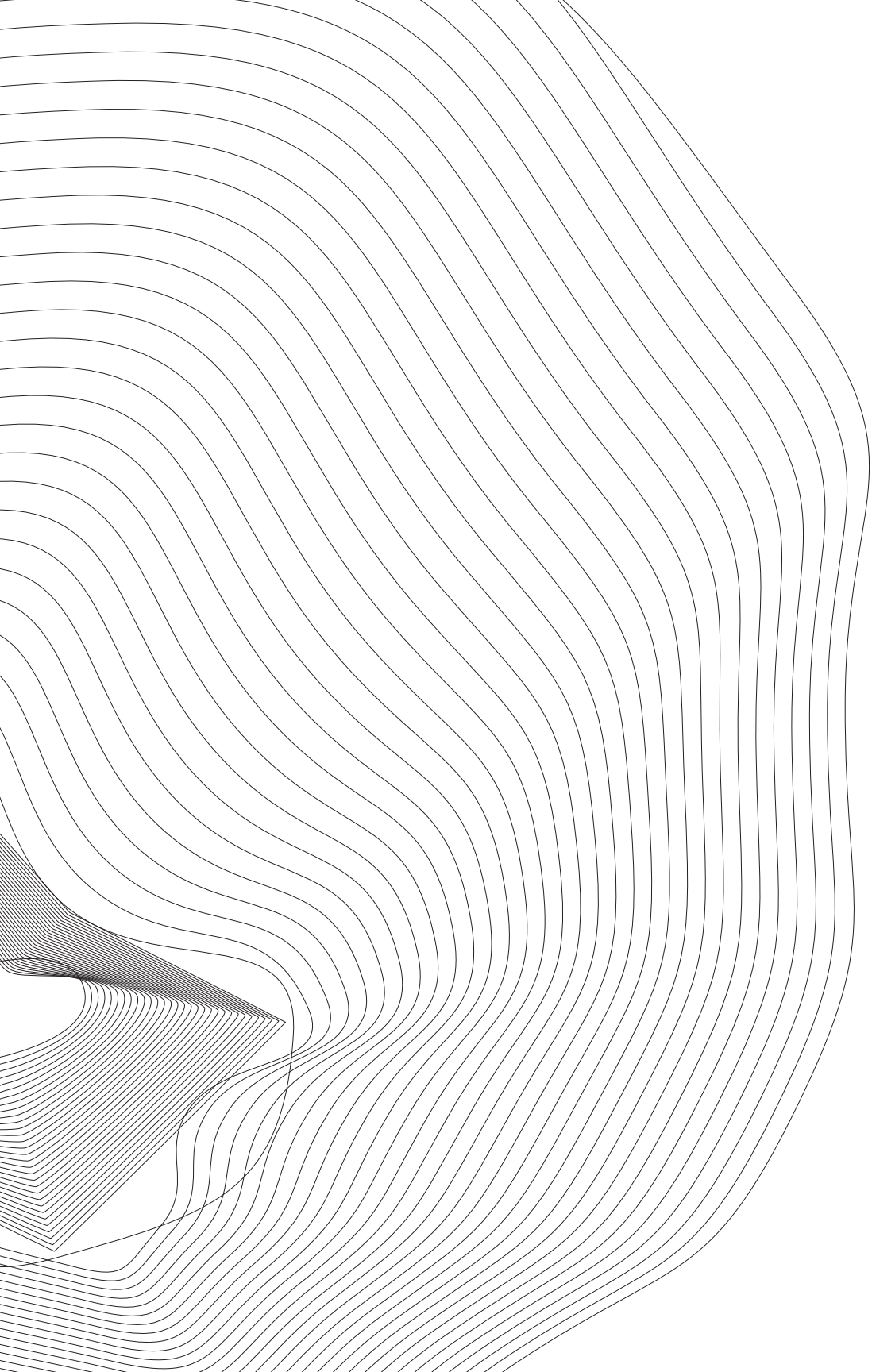
4:00 p.m.

The Audacity of Obama: Using Ethos to Create Opportunity

**Kristina Moore**

Anke Wolbert, faculty mentor

Communication, Media & Theatre Arts



# ABSTRACTS

## COLLEGE OF ARTS & SCIENCES

### DEPARTMENT OF AFRICOLOGY & AFRICAN STUDIES

#### **The Prospects and Challenges of an African Renaissance**

Brittany Floyd

Victor Okafor, faculty mentor

The purpose of this paper is to explore why development is challenging in Africa and examine the impact of African leadership. It is one of the most resource rich regions, yet the poorest. The legacy of slavery, colonialism, imperialism, and neocolonialism has created a dependence on foreign aid, which has created an environment where Africans have no power in the global economy. This paper offers three solutions for Africans to chart their own path towards development.

ORAL SESSION A — ROOM 352 — 9:15 A.M.

#### **Sharecropping Blackness: White Supremacy and the Hyper-Consumption of Black Popular Culture**

Nyambura Njee

Dyann Logwood, faculty mentor

This qualitative study will explore the impact and process of the way that “Blackness” is constructed and commodified for consumption within a White supremacist culture and examine the effects of this construct on the Black community. The paper will discuss some of the 21st century consequences of this phenomenon. My belief is that the popular consumption of commodified Black images is related to the maintenance of White supremacy and thus the systemic oppression of Blacks in the United States.

ORAL SESSION B — ROOM 320 — 10:30 A.M.

### SCHOOL OF ART & DESIGN

#### **A Representation of Diverse Metal Design and Traditional Techniques**

Andrew Basnaw

Gretchen Otto and Brian Nelson, faculty mentors

These exhibits showcase the skills acquired through four undergraduate semesters in the metalsmithing area. They demonstrate both foundational techniques—including the branching styles of traditional blacksmithing, undertaken at the School of Art & Design despite the challenges of equipment and expense—and their application to functional design, architectural ornament, and small-scale work like wearable jewelry.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

**Ceramic Big Pots**

Coriana Baumgardner, Erica Buning, Dana Beyer, Alyssa Jacobsen,  
Amanda Rielinger, and Denielle Sanborn  
Diana Pancioli and Beth Ogden, faculty mentors

These big pots have been made by students—both art majors and non-art majors—who are new to working with clay. Two things facilitate their building: extruding clay bands, and a trapezoidal template that shows how to cut the pieces to build the walls, one row at a time.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

**Temptress**

Rebecca Beechler

Andrew Maniotes, faculty mentor

Temptress is a wine branding project I created in Intermediate Graphic Design 2. This brand was made to have a sexy and elegant feel. When looking at a wine company each type of wine has their own unique flavor. I carried that idea over to my own brand and designs for my system. Each wine flavor was given a unique identity with a name and a woman to match. Each bottle/wine flavor has a custom color pallet to make each bottle easier to see when in larger groups, like on a shelf in a store. Included in the system a style manual that gives the specific styles and rules that are to be followed when using the logo.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

**Ceramic Bakers and Serving Dishes**

Abigail Billau, Emily Fondaw, Madison Lora, Ashlin Miller,  
Kathleen Nymberg, Gabrielle Stephen, and Dailah Walker  
Diana Pancioli and Beth Ogden, faculty mentors

The goal of this ceramics assignment was the integration of form and surface. The students designed and painted the bottom of slabs with colored slip then cut around the shape to build extruded walls on the top edges. This work creates an interesting and usable form.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

**One Work Influenced by Four Artists**

Dan Blades

Andrew Maniotes, faculty mentor

For this project, I chose four artists/designers who influence me and incorporated those influences into the piece. The artists/designers were David Carson, John Maeda, Robert Rauschenberg and Ray Johnson. The piece contains Carson's experimental design, Maeda's elements of interactivity and technology, Rauschenberg's found object strategy and Johnson's spirit of collage.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.



## **Ceramic Platters**

**Olivia De Croix, Amber Resseguie and Brandon Bartell**

**Diana Pancioli and Beth Odgen, faculty mentors**

Platter making is facilitated by creating a long extruded shape that creates the form on which the platter slab is laid. The supporting form gives the plate its shape, a well, and a rim. When the plate slab is stiff, it is removed from the support and a foot is added to the bottom. The surface is completed with an historic glaze called Maiolica—the most painterly of glaze techniques.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Richard Floethe, Anthony Velonis, and the WPA Poster Project**

**Mary Elton**

**Leslie Atzmon, faculty mentor**

The Works Progress Administration (WPA) hired 5,300 artists and designers as part of the Federal Arts Project (FAP). The FAP supported art production, research and education, and provided posters to inform communities about health and safety, opportunities for classes and employment, entertainment, travel and community events. This paper examines the roles of Richard Floethe, a German-born, Bauhaus-trained illustrator, and Anthony Velonis, an artist familiar with the silk-screen process, in FAP poster production. Together, Floethe and Velonis organized a collaborative workplace for the WPA designers, who created striking designs that exposed Americans to Modern Art and design.

ORAL SESSION B — ROOM 330 — 10:30 A.M.

## **Soldiers of the Bauhaus**

**Alexandra Fogarasi**

**Brendan Fay, faculty mentor**

The Bauhaus was an early 20th century school of art and design located in Germany and open from 1919 to 1933. Many of the school's founders and key instructors, who played significant roles in the development of modern art, architecture and design, arrived at the Bauhaus as veterans of World War I. This paper examines the wartime experiences of former soldiers at the Bauhaus, including Walter Gropius, Paul Klee and László Moholy-Nagy, and explores the long-term artistic and psychological impacts of wartime trauma within their individual careers.

ORAL SESSION B — STUDENT ART GALLERY — 11:30 A.M.

## **Hues of Disaster: The Art of Oil Pollution**

**Tammy Impullitti**

**Maria Ruggiero, faculty mentor**

The paintings in this series are based on aerial and ground views of oil spills on bodies of water. The Native American protest against the Dakota Access Pipeline led me to research other oil spill events. Images from these destructive events, while disturbing, also evoke certain contemporary and historical abstract paintings like those of Gerhard Richter. By combining photographic references from current events with traditional landscape references, these works represent small sections of large, destructive events. This approach allows me to investigate the environmental impacts of human error while also showing the underlying strength and persistent beauty of the natural world.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **US37 Brand Identity**

Melissa Kalfayan and George O'Donovan  
Ryan Molloy, faculty mentor

From the beginning of this project, we wanted to illustrate the diversity, connectivity and growth that the Undergraduate Symposium fosters. We immediately jumped to photography as a necessary component of the identity, as we wanted to emphasize the diversity of Eastern Michigan University's student body. The undulating line mark we developed came from a desire to communicate connectivity, not only between mentors and pupils, but between various disciplines. Once we finalized the identity, various projects followed including but not limited to: posters, t-shirts, website banners, and book design.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Aging Gracefully: Furniture and Upholstery Fabrics Inspired by Preservation Processes**

Shonna Keyes  
Cathryn Amidei, faculty mentor

Using natural occurring preservation processes such as petrification, fossilization and the formation of gems as my inspiration, my work reveals the beauty of natural elements that were previously left behind, using fabric and furniture as the gateway. My work is an example of a line of textiles that could be applied into a commercial furniture setting and uses both woven and printed aspects of fibers and textiles. It also uses the basic structure and knowledge of furniture construction and upholstery as well as pattern making, sales and marketing.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Faculty Catalogue and Exhibition Design**

Chloe Menser, Cashmere Morley, and Joey Magnuson  
Leslie Atzmon, faculty mentor

This project features designs for the EMU School of Art + Design faculty catalogue, exhibition poster, and postcard. The concept for this project was inspired by the role that objects play in both the visual and symbolic content Flemish still-life painting. We gave our work a contemporary twist on Flemish still-life painting by including expressive typography and artists' tools that our faculty members may use in their work.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **"I See Myself in the Stars" and "Nouveau Kimono"**

Cassidy Moravy-Penchansky  
Suzanne Boissy, faculty mentor

On display are two pieces. The first is a screen print on silk organza and silk noil using screen printing ink, discharge ink, glow-in-the-dark screen printing ink, and embellished with embroidery and glitter. Each star of the constellation represents a letter in my name and a specific feature in my face. The second piece is a silk painting that was inspired by a design for a kimono from the 1700s with Art Nouveau patterns from the 1910s inserted into the design.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Assessing the Political Discourse of Keith Haring's Graphic Design**

Scott Schlueter

Leslie Atzmon, faculty mentor

This project is an analysis of the political influences on the artist Keith Haring's work. The goal is to show that by utilizing a deceptively pedestrian visual vocabulary of his own design, Haring created a novel breed of artistic discourse and shined a graphic spotlight on hot-button cultural happenings of the eighties. By examining Haring's personal history through the lens of historical context and by evaluating the pictorial language at play in his work, this research demonstrates the significance of Keith Haring as a graphic designer, rather than solely as a fine artist.

ORAL SESSION B — ROOM 330 — 10:45 A.M.

## **Procedural Design of Identity**

Tytiana Steele

Ryan Molly, faculty mentor

This design project offers an identity system for a hypothetical re-branding of the College for Creative Studies. The design process aimed to create unity across a range of branded objects, so that the identity system could be flexible and extendable. Beginning with a grid, a set of four colors, and zig-zag lines as the basic design elements, a compositional procedure generated a unique pattern for each object while giving those patterns a common identity. This connection creates an adaptable aesthetic that could be applied to other aspects of a brand campaign including T-shirts, cups, sticky notes or pens.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **You had Me at Design**

Autumn Vitale

Leslie Atzmon, faculty mentor

This was a semester-long project in which we created a collection of images in varied media—photographs, collages, etc. We compiled these images into a book design to form a visual narrative. I spent weeks creating visuals that exemplified both my design style and my relationship with design. I decided to communicate these topics within my narrative as well. It is fitting that I am completing this book in my last year as an undergraduate. It is expressive of my journey with design along with how I feel every time I begin a new project.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Yes, You Can Step on the Rug**

Jordan Wilshaw

Brooks Harris-Stevens and Suzanne Boissy, faculty mentors

This project explores functionality, decay, and the value of artwork and artists' time. Using common materials like concrete and cotton, it invites viewers to relate the work to their surroundings and past tactile experiences. The piece was originally a site-specific installation spanning a 15-foot entryway, intended to be stepped onto and crushed—effectively ruining the piece as it is used.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Narrative: A Design Journey**

Anastasia Zein

Leslie Atzmon, faculty mentor

The word “narrative” commonly refers to a literal, linear story with a beginning, middle and end. It is assumed to be rendered in written text, to have characters and a plot, and possibly even to have visual illustrations. My challenge in this project was to look past that common definition: to leave text and depictive visual imagery out, and to explore the idea of an abstract visual narrative based solely on the flow of imagery. The design of this book represents who I am as a designer—how I understand myself when I think about, interact with, and create graphic design—but it also is a distinct visual narrative that is open to interpretation. I invite you to explore this project.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **DEPARTMENT OF BIOLOGY**

### **Assessment of DNA Sequence Variants of Dimorphic Alu Elements in Human Population Studies**

Renee Allen

David Kass, faculty mentor

Retrotransposons are mobile DNA elements that generate new copies via an RNA intermediate. A small fraction of the over one million Alu elements in the human genome have integrated relatively recently. These are not fixed in human populations, yielding presence/absence (+/-) DNA markers, aka dimorphisms. A more detailed sequence analysis of two of these markers was more informative than simply scoring genotypes as ++, +-, or --. In this study a size variant was observed in the presence form of the Yc1NBC60 locus providing additional alleles to test the hypothesis that nucleotide variation within +/- dimorphisms yields a more detailed assessment of human populations.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

### **Role of Corticosterone and Foraging Efforts in Red Crossbills (*Loxia curvirostra*)**

Micah Bohanon and Megan Wurtz

Jamie Cornelius, faculty mentor

Red crossbills are a nomadic finch specializing on conifer seeds. These seeds show high degrees of spatial variation but consistently develop in early summer, presenting unique challenges to crossbills. We have previously shown that crossbills prepare for spring movements by depositing fat, presumably to mitigate the risks inherent to finding unpredictably distributed resources. Here we describe how corticosterone levels vary with seasonal changes and further test how manipulation of foraging effort influences behavior and physiology during the spring migratory period. Our experiment shows increased foraging effort to prolong migratory behavior and physiology in nomadic migrants.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **A Simple Method for the Rapid Induction of Salt Appetite in Mice**

Tasnia Chowdhury

Non-Presenting First Author: Martin A. Raymond

Joseph Breza and Thomas Mast, faculty mentors

Many methods for inducing salt appetite in lab rodents exist, but some of them are quite invasive. In seeking a less invasive alternative, we chose amiloride, a potassium-sparing diuretic. 300uM amiloride is more than sufficient to induce a robust salt appetite within 36 hours, regardless of the animals' solid diet. Mice (n=12) exhibited a significant salt appetite relative to tap-water controls (n=7). All data (20-min tests) were collected in a custom apparatus, offering mice free access to two bottles, and used stereo recording via an audio card to collect voltage deflections associated with drinking. Our data are in agreement with mouse-lick patterns recorded via commercial lickometers.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Characterization of CcMANS1, a Mannan Synthase from**

### ***Coffea canephora***

Janell Couperthwaite

Aaron Liepman, faculty mentor

Plant cell walls consist mainly of carbohydrates such as cellulose, hemicelluloses, and pectins. Mannans are mannose-rich hemicellulosic cell wall carbohydrates found in many plants such as coffee (*Coffea canephora*). Coffee seeds are rich in mannans, and mannan content of coffee seeds impacts brew quality. This study aimed to characterize a *C. canephora* mannan synthase enzyme (CcMANS1) that has been implicated in the biosynthesis of backbones of coffee seed mannans. Recombinant CcMANS1 was produced in yeast. Results of efforts to characterize CcMANS1 activity using in vitro radiometric enzyme assays and analysis of carbohydrates produced by transgenic yeast expressing CcMANS1 are presented.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Building Geographic Distribution Models of Five Plant Genera on Madagascar**

Clarissa Crist

Margaret Hanes and William Welsh, faculty mentors

Madagascar is home to many habitat types that support a vast amount of species diversity. This work aims to describe, for the first time, the geographic distribution of plant species in the *Hibiscus* tribe (Malvaceae) on this island. Coordinate points were obtained from the labels of 752 herbarium plant specimens, representing 35 species in 5 genera. Using ArcGIS, Ecological Land Unit data, and Maxent, point locality maps and distribution models that include topography, bioclimate, landcover, and rock type on Madagascar, were built for each species. The resulting maps will be used to calculate species richness, endemism rates, and determine what drives speciation in this group of plants.

ORAL SESSION A — ROOM 301 — 9:30 A.M.

## **Analyzing Welfare of Captive Red Crossbills (*Loxia curvirostra*) in Different Environments**

Jorrie Davis and Megan Wurtz  
Jamie Cornelius, faculty mentor

Songbirds, like the red crossbill, are commonly kept in captivity. This study investigates the welfare of captive red crossbills by measuring behavioral indicators of stress, such as stereotypies. A stereotypy is a repetitive action that is commonly exhibited by captive animals and is thought to reflect psychological stress. We compare the time red crossbills spent performing stereotypies in different environmental settings and under different feeding regimes. This study may help improve the practice of keeping songbirds through a better understanding of stress in captivity.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Nitrate Decreases Methane Production and Increases Denitrification in Wetlands**

Jaymes Dempsey  
Kristin Judd, faculty mentor

Wetlands play an important role in microbial methane production and denitrification. Methanogenesis produces a potent greenhouse gas, while denitrification removes harmful nutrients from ecosystems. To examine the link between these two processes, we incubated sediment from *Phragmites* spp. and *Typha* spp. dominated stands, and added increasing concentrations of nitrate. If nitrate allows denitrifiers to outcompete methanogens, we expected increased denitrification and decreased methanogenesis with high nutrient concentrations. Understanding the factors involved in these processes is essential to maximize ecosystem services and minimize problems posed by methane and invasives.

ORAL SESSION B — ROOM 352 — 11:15 A.M.

## **Purification and Verification of *Microcystis aeruginosa* Uni-algal Cultures from Poly-algal Cultures**

Thomas Dewaters  
Michael Angell, faculty mentor

Harmful Algal Blooms (HABs) are a large economic and ecological problem, contaminating drinking water and costing millions to treat affected water. A chief component of these blooms is toxin producing strains of the cyanobacteria *Microcystis aeruginosa*. The purpose of this study is to develop a method of isolation of *Microcystis aeruginosa* strains from poly-algal field isolates. Methods such as: centrifugation, microdilution, microdissection, and plating were used to develop a “purification flowchart” to establish uni-algal cultures from donated lakewater samples. Algal isolates were subsequently identified through morphologic and genetic (16S RNA) analysis.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Alone and Scared: How Sociality Influences Metabolic Response in Madagascar Hissing Cockroaches**

Christine Doran

Cara Shillington, faculty mentor

From a racing heart when frightened, to perspiring when excited, these stimuli influence our internal processes, which can be measured as metabolic rates. Surprisingly, little research has specifically addressed the role of stress on metabolism. In this study we measured metabolic rate in communal Madagascar Hissing Cockroaches (*Gromphadorhina portentosa*). Animals were tested individually, paired, and in small groups. Naturally found in social colonies, we hypothesized that isolation-induced stress would result in greater metabolic rates, with individuals experiencing the highest rates.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Expanding the Tree of Life on Madagascar with Megistohibiscus**

Nicholas Drews

Margaret Hanes, faculty mentor

Megistohibiscus represents a group of plants with 5 genera and 35 species, all of which are endemic to Madagascar. To reconstruct the phylogeny for this group we extracted genomic DNA from 62 individual plants and sequenced them with RADSeq methodologies. RADSeq is a tool that uses restriction site markers and molecular tags to simultaneously sequence genes across the genome in all individuals. A bioinformatic pipeline was used to filter raw data and cluster sequences into homologous genes. Phylogenetic analyses were used to resolve how species of this clade are related and how and when they spread throughout Madagascar.

ORAL SESSION D — ROOM 320 — 3 P.M.

## **Carbohydrate Inhibition of *Lactobacillus rhamnosus* GG and Coaggregation Assay Using FlowCam Method**

Henry Hakamäki

Daniel Clemans, faculty mentor

*Lactobacillus rhamnosus* GG is a normal component of the human gut microbiome and has a probiotic effect by forming biofilms with partner bacterial strains and “shielding” the gut from harmful bacteria. The exact mechanism and molecular structures unique to *L. rhamnosus* GG that are used to form these biofilms are poorly understood. This study examines how carbohydrate availability and utilization play a factor in biofilm formation with this bacterium, using a new instrument, a FlowCam, to record data on coaggregation (partnering) between *L. rhamnosus* GG and its partner strains.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Prairie Grass Growth Depends on Soil Microbes, but It is Not Due to Restoration Age of Soil**

Rita Hodges

Emily Grman, faculty mentor

Restoring prairies on land used for agriculture is difficult, perhaps because beneficial soil microbial communities are lost. I hypothesized that if beneficial soil microbe content increases with soil age, then plants grown in soils of older restorations and remnants (never-tilled prairies) would grow faster than in younger soils. In a greenhouse experiment, I grew plants in soils of remnants and 28 restorations of different ages. Growth differed among treatments, but not according to soil age. Other factors likely enable recovery of the soil microbial community and facilitate restoration.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Copy Number Variation in *S. cerevisiae* Containing Human Fragile Site FRA3B and FRAXB**

Carly Jackson and Tayler Murphy

Anne Casper, faculty mentor

Copy number variations (CNVs) are duplications or deletions of large genomic regions. CNVs have been linked to diseases such as heart defects and autism, however, little is known about how they arise. Evidence shows CNV locations are correlated with the locations of human common fragile sites. Common fragile sites are areas of the genome that are prone to breaking under replication stress. To investigate the formation of CNVs, we created yeast strains containing human fragile site FRA3B or FRAXB, and a reporter cassette containing genes for resistance to copper and formaldehyde. This cassette allows us to screen for the formation of CNVs at the fragile site in yeast cells under stress.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Analysis of Allelic Variants of an Alu Element to Enhance Investigations of Human Populations**

Aiden Jones

David Kass, faculty mentor

Alu elements represent the most common short interspersed elements (SINEs) in the human genome. A small portion of elements is not fixed in the genome, yielding presence/absence variants shown to be highly useful in studying origins and relatedness of human populations. We identified additional allelic sequence variants, which we think will increase the resolving power of these markers. To test this hypothesis, we developed an assay incorporating the polymerase chain reaction and restriction endonuclease digests. We determined the allele in which the Alu integrated, identified post-integration variants, and are further analyzing DNA samples among various populations utilizing this assay.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.



## **Genetic Variability and Effective Population Size in Mudpuppy Salamanders**

Zachary Kellogg and Dana Leigh  
Katherine Greenwald, faculty mentor

Mudpuppy populations are thought to be experiencing rapid declines due to habitat degradation, invasive species, lampricide and over-collection. This study focuses on assessing the genetic makeup of mudpuppy populations that reside in rivers and lake systems in the Midwestern United States. We predict more highly isolated populations will have significantly lower genetic variation and lower effective population size, and will likely show signatures of recent declines. This rapid decline has caught the attention of several Midwestern DNR agencies due to the mudpuppy's key ecological roles. The results from this study will help DNR biologists implement plans for better management.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Benthic Invertebrates Along a Depth Gradient in Lake Champlain: 2016 vs. 1991**

Jennifer Knight  
Kristin Judd, faculty mentor

Benthic invertebrates play a significant role in aquatic systems. There are limited data available about benthic invertebrates in Lake Champlain. We used a Ponar sampler to explore current density and biomass of invertebrates along three transects with sampling sites ranging from 5 to 100 m depth in the lake's main basin. Results from 5 and 100 m depths were then compared to densities from a limited benthic invertebrate survey in 1991. We found density and biomass of benthic invertebrates were consistent from the 20-100 m depths. The 5 m density was 98% lower when compared to 1991. Our results can be used to better understand impacts of potential invasive species such as the quagga mussel.

ORAL SESSION B — ROOM 352 — 11:30 A.M.

## **Environmental Variables and Their Effect on Cyanobacteria Populations in 13 Stratified Lakes**

Jacob Kowalczyk, Joseph Proietti and Richard Wagner  
Jose Vites and Steven Francoeur, faculty mentors

Global climate change caused by anthropogenic activity is creating conditions that promote the formation of harmful algal blooms by cyanobacteria in many freshwater lakes. The purpose of this study is to quantify the amounts of cyanobacteria in 13 stratified lakes throughout the Huron River Watershed, investigating their correlation to environmental factors (e.g. pH, dissolved oxygen, nutrient concentrations, etc.). Lakes were sampled one to two times a month from May-October, 2016. Results showed correlations between urbanization and increased cyanobacteria. This study increases understanding of what environmental conditions promote and/or limit cyanobacterial growth in temperate lakes.

ORAL SESSION B — ROOM 352 — 10:30 A.M.

## **From the Lab to the Land: Tarantula Behavior in a Natural Setting**

Samantha Malley

Cara Shillington, faculty mentor

Animal personality is defined as repeatable behavioral trends over time and across situations. Meaning, if animals behave boldly in one situation, they will consistently behave boldly under different circumstances. Tarantula personality has been examined in the laboratory, but little study has been done in natural environments. Thus, we designed a behavioral field study of Mexican red-rump tarantulas in the Yucatan Peninsula. We used common lab techniques of testing personality (prod tests, prey-simulation) and analyzed correlation between responses to test for behavioral repeatability.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Nutritional Shifts Cause Changes in Cell Surface Protein Expression in *Lactobacillus rhamnosus* GG**

Natasha Marchese and Amanda Rielinger

Daniel Clemans, faculty mentor

*Lactobacillus rhamnosus* GG (LGG) is a probiotic that improves the function of the gastrointestinal system. In the human gut LGG forms physical connections, known as biofilms, with other species of bacteria and food particles. These interactions depend upon cell-surface molecules called adhesins. Nutritional shifts with LGG cause changes in the adhesins which lead to changes in connections between bacterial species in the biofilm. This study simulated the nutritional shifts by growing LGG in growth media containing different types of nutrients. Here we present data showing a shift in bacterial partner association and cell-surface molecules in LGG due to nutritional shifts.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Behavioral and Vocal Responses of the American Goldfinch (*Carduelis tristis*) to Predatory Bird Calls**

Kate Marsh

Jamie Cornelius, faculty mentor

American Goldfinches (*Carduelis tristis*) are preyed upon by predators that commonly attack songbirds at feeders (feeder predator) and predators that rarely attack songbirds at feeders (non-feeder predators). Examples include the Cooper's Hawk (*Accipiter cooperii*) and Red-tail Hawk (*Buteo jamaicensis*), respectively. This study measures the behavioral and vocal reactions of American goldfinches to these different types of predators. If goldfinches respond to predatory cues based on the level of threat associated with a particular predator species, then goldfinches should respond more strongly (i.e. become vigilant, feed less, abandon feeder) to feeder predators than non-feeder predators.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **It's Not Just You Who Can Get Stressed When You Have to Meet Someone New, Cockroaches Do Too!**

Holly McQuithey

Cara Shillington, faculty mentor

Madagascar hissing cockroaches display aggression to establish dominance within their colony. These social interactions result in increased activity and stress, which can be measured via metabolic rates. We compared metabolism of two groups of cockroaches; 1) pairs from the same, familiar colony and 2) pairs of unfamiliar cockroaches from different colonies. We predicted familiar pairs would have lower metabolic rates due to their established hierarchy compared to unfamiliar pairs. There was no difference in metabolism between groups; however, we observed surprisingly synchronized breathing patterns between both familiar and unfamiliar pairs.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Effects of Stress on Male vs. Female Sex Allocation and Biomass of *Papaver rhoeas***

Hannah Mohamed

Gary Hannan, faculty mentor

Sex allocation, the distribution of resources to male and female function, is vital for reproductive success in plants. *Papaver rhoeas* produces variable numbers of male and female flower parts in each flower. This study examines how poppies reallocate resources between male or female flower parts in response to stress induced by limited soil. We hypothesize that stressed plants will be smaller and will exhibit a shift toward greater relative allocation to female structures. To test this hypothesis, plants were grown in small or large pots in a randomized block design, flowers were harvested, and structures were counted and weighed to detect shifts in male and female allocation during growth.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **The Glutton vs. the Dieter: Effects of Differential Feeding Regimes on Weight Gain in Tarantulas**

Kayla Moore

Cara Shillington, faculty mentor

All animals require nutrients to grow and thrive and different feeding regimes can impact weight gain. Most studies have examined impacts of different food types or amounts; however, my experiment compares influence of timing of feeding on weight gain in juvenile tarantulas. Two groups were fed the same amount each month, but one group received all their food at once (monthly) while the other group was fed half the amount every two weeks (biweekly). Weight gains were compared monthly over a 6-month period.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Effect of CD40 Silencing on MAV-1 Replication in Murine Macrophage Cells**

Andre Obua

Michael Angell, faculty mentor

Murine alveolar macrophage (MH-S) cells constitutively express the immunoregulatory antigen CD40. Previous experiments have demonstrated that CD40 expression is upregulated following infection with the DNA virus, mouse adenovirus 1 (MAV-1). To elucidate the importance of CD40 signaling in MAV-1 replication, a lentiviral-based shRNA vector specific to CD40 was transduced into MH-S cells. Four MH-S variants with varying levels of CD40 suppression have been generated. The purpose of this experiment is to examine the effect of CD40 silencing on the efficiency of MAV-1 replication in MH-S cells, as determined by the relative abundance of viral genomic transcripts.

ORAL SESSION D — ROOM 320 — 3:15 A.M.

## **Relative Abundance, Sex Ratios, and Roosts of Silver-Haired Bats in Upper Michigan**

Delainey O'Donnell

Allen Kurta, faculty mentor

Mist-net surveys of bats were done in two areas of the Upper Peninsula of Michigan to determine the relative abundance and sex ratio of silver-haired bats. It was predicted that silver-haired bats would represent less than 5% of all bats captured and that most adults would be male. However, we discovered that silver-haired bats were common, representing 24% of all bats caught near White Pine in 2015, and 49% at Pictured Rocks National Lakeshore in 2016. A total of 55 silver-haired bats were captured; all were adult males, which suggests that females migrate north of Lake Superior for the summer. Transmitters were placed on eight silver-haired bats in 2016, and three roost trees were located.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Evolutionary Analysis of the *MysTR* Retrotransposon in Mammals**

Tessa Passarelli

David Kass, faculty mentor

Retrotransposons are a group of transposable elements that integrate into new chromosomal locations via an RNA intermediate. These elements comprise a large proportion of mammalian genomes. The *mysTR* family of LTR-retrotransposons appears to be limited to genomes of the Cricetidae family of rodents and related to *mysERV* elements of the Muridae rodent family. The objective of this study is to trace the ancestry of these elements to determine if derived from a common ancestor or the result of independent retroviral integrations. This will provide insights regarding the origins and evolution of mammalian retrotransposons and their continued contributions in shaping mammalian genomes.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **35 Weeks, 3800 Miles, 1642 Plants: A Short History of Botanical Adventure at EMU**

Kenny Schutter and John Bradford  
Margaret Hanes, faculty mentor

Dr. Robert Belcher was an EMU Biology professor from 1956-1980. In this time he took a number of plant collecting trips to Australia. Here we reconstruct one of these trips using herbarium specimens and his field collection notebooks. Dr. Belcher collected 1,642 plant specimens, representing at least 72 different plant families, from September 18, 1967 to June 1, 1968, while travelling across southern Australia and Tasmania, traversing more than 3800 miles. These specimens are now housed in eight herbaria around the world. Our work aims to locate, incorporate and database all specimens from the 1967-1968 trip into the EMC collection and identify the location of remaining collections.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Investigating Species Relationships in *Megistostegium* (Malvaceae)**

Tahsina Shimu  
Margaret Hanes, faculty mentor

The island of Madagascar is known for its rich flora and fauna. The island contains unparalleled levels of endemism and species diversity, making it an ideal area to study species and speciation. The three species in the genus *Megistostegium* are used in this study. Previous research shows that all three species are, genetically, very similar. This research aims to further determine how the three morphologically distinct species are related. Genomic DNA has been extracted from 110 individuals and analyzed using RADSeq next-generation sequencing methods. Phylogenetic relationships resulting from the sequencing are summarized.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **The Effects of Elevated Corticosterone on Social Learning in Red Crossbills (*Loxia Curvirostra*)**

Megan Wurtz  
Jamie Cornelius, faculty mentor

Social learning can help animals find food sources and may be favored if resources are unpredictable. Red crossbills specialize on unpredictably distributed conifer seeds and make irruptive migrations into atypical habitat if they fail to locate sufficient seed. This may require adoption of new foraging techniques as well as physiological adaptations that support survival, e.g. elevating stress hormones like corticosterone (CORT). We simulated food unpredictability in a laboratory setting to elevate CORT and explored how these conditions affected ability to learn. Social learning in red crossbills will be discussed along with how CORT mediates behavior during challenging conditions.

ORAL SESSION A — ROOM 301 — 10 A.M.

## **The Effect of Temporary Anosmia on Olfactory Bulb Glomerular Neuron Activation**

Kelsey Zuk

Thomas Mast, faculty mentor

Changes in sensory input can alter brain circuitry. Olfactory sensory stimulation activates the immediate early gene c-Fos in the olfactory bulb (OB). The presence of fos protein can be used to measure changes in OB circuit activity. In the present study, olfactory sensory input was disrupted in mice by intranasal irrigation with the detergent Triton X-100. This induces a temporary loss of the sense of smell. PBS was delivered as a control. Mice were given 48 hours to recover from treatment before odor stimulation. We hypothesize that, due to a loss of inhibitory dopamine, Triton X-100 treated mice will have an increase in fos positive cells when compared to PBS treated mice.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **DEPARTMENT OF CHEMISTRY**

### **Stability of Pt(IV) Complexes in Dimethyl Sulfoxide**

Natalia Anaya

James Hoeschele, faculty mentor

The objective of this research project is to determine the stability of Pt(IV) complexes in dimethyl sulfoxide (DMSO), which is a common solvent used in in-vitro studies. An initial stock solution of cis-Pt(NH<sub>3</sub>)<sub>2</sub>Cl<sub>4</sub> in DMSO was prepared, maintained at 21°C, and analyzed weekly over six weeks using UV-spectroscopy. A second solution of cis-Pt(NH<sub>3</sub>)<sub>2</sub>Cl<sub>4</sub> in DMSO was then prepared, stored at 37°C, and analyzed weekly for five weeks. At 21°C, a 10% change in compound stability was observed for the first stock solution when exposed to light, and a 2.8% stability change was observed when not exposed to light. For the second stock solution, a total change of 1.2% was observed under dark conditions.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

### **Identifying Fibers in South American Paracas Period Mummy Textiles by Peptide Mass Fingerprinting**

David Bailey

Ruth Ann Armitage, faculty mentor

In this experiment, ancient fibers from Paracas Necropolis period mummy wrappings obtained in Northern Peru are being analyzed to determine the species of camelid used. These fibers first need to be broken down into smaller peptide sequences using a protocol. Paper spray and matrix-assisted ionization mass spectrometry are being used to obtain a peptide mass fingerprint from the sample as well as other wool samples from different camelid species. The peptide mass fingerprint from our sample will be compared to the fingerprints of the database of camelids. This will allow us to determine which sequence is like that of the sample and conclude which species of camelid was used.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Optimizing the Synthesis of [Pt(NH<sub>3</sub>)<sub>3</sub>Cl]Cl – An Analytical Approach**

Katie Baker

James Hoeschele, faculty mentor

The synthesis of [Pt(NH<sub>3</sub>)<sub>3</sub>Cl]Cl is the least developed and lowest-yield synthesis of any known Pt(II) Choroammine complex, despite the fact that the original method was published by Tschugaev (1915) and later modified by Hall (1948). More recently, a separate and unique approach was reported by Morita and Bailar (1983). Studies of this complex helped to elucidate the mechanism of action of Cisplatin. The goal of our work is to optimize the synthesis (yield) of this complex by (1) examining a variety of synthetic approaches, including both thermal and microwave-assisted synthesis and (2) investigating the influence of the reaction variables of temperature and concentration of reactants.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Understanding the Interaction Interface between Two Dopamine Receptors Implicated in Depression**

Adam Baraka

Hedeel Evans and Deborah Heyl-Clegg, faculty mentors

The dopamine receptors, D1 and D2, have been previously shown to form a heteromer deregulating certain signaling pathways and leading to diseased states such as depression and Alzheimer's. Here we show the formation of the D1-D2 heteromer in vitro and examine the affinity of the D1-D2 interactions using a variety of synthetic peptides designed to compete against the binding interface. Disruption of complex formation using peptides may have wider novel implications in the field of pharmaceuticals preventing these complexes from forming in certain brain regions, likely decreasing the severity or preventing diseased states in the long run.

ORAL SESSION D — ROOM 320 — 3:45 P.M.

## **Method Development for the Selection of Aptamers for Streptavidin and Microcystin-LR using CE-SELEX**

Mariah Brito and Celeste Rousseau

Jeffrey Guthrie, faculty mentor

Aptamers are single-stranded DNA/RNA fragments that, like antibodies, bind with high affinity their target. The method for aptamer selection begins with a library of random sequence DNA that is incubated with the desired target. DNA bound to the target is then separated from the unbound DNA, the binding sequences are amplified by PCR, and the resulting DNA undergoes further selections. Selection continues until only high-affinity sequences remain. In this research, the target was first conjugated to quantum dots to allow separation of the target from unbound DNA by capillary electrophoresis. Fluorescence polarization was used to determine the binding strengths of the resulting DNA pools.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Synthesis and Anti-Cancer Activity of Cysteine-Deleted Tachyplesin Analogs**

Anna Eitel and Jaylen Taylor

Deborah Heyl-Clegg, Hedeel Evans and Jeffrey Guthrie, faculty mentors

Tachyplesin, an antimicrobial peptide, has been shown to kill cancer cells. The positive charges present in Tachyplesin are attracted to negatively charged components that cancer cells express on their surface. The peptide disrupts cell membrane structure, causing cell death. Our lab has studied a linear version of this peptide, CDT, as an antibiotic, but not for effects against cancer cells. In this study, the anti-cancer effects of CDT and its analogs were studied using lung cancer cells. An MTT assay was performed to calculate percent cell viability as a function of increasing concentrations of peptide. Results indicate that the D-analogs of CDT have stronger anti-cancer effects than CDT.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **The Investigation of the Synthesis of Chloro[subphthalocyanine]boron(III)**

Lindsey Erdmann

Vance Kennedy, faculty mentor

This research investigated the synthesis and purification of chloro[subphthalocyanine]boron (III). The original synthesis of this compound was carried out at high temperatures and used sublimation as a purification technique. This research investigated lower reaction temperatures and used extraction as a purification technique. Subphthalocyanines and Phthalocyanines are compounds of interest due to their optical properties.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Characterizations of a Low Cost Ozone Sensor for the Evaluation of Ambient Air Quality**

Nora Farha and Abigail Minsker

Gavin Edwards, faculty mentor

Ozone is an EPA regulated pollutant that has deleterious health impacts. Clearly, we need to measure and track changes to this gas now, and in the future. Recent developments in technology have made commercially available a new generation of trace gas sensors that are now being marketed to the public and “citizen scientists” to measure ambient air quality at their homes and offices. In this poster, the work presented will show that lab tests of one of these commercial sensors shows that these sensors have limited practical application in their current form and require several correction factors in order to be viable, low-cost sensors for measurement of local ozone pollution.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.



## **Acid Catalyzed Synthesis and Reactivity Investigation of $\alpha$ -Substituted Novel Chalcones**

Alan Fried and Jesse Wotring

Ingo Janser, faculty mentor

Chalcones are a class of natural compounds found primarily in edible plants. Although they have been found to have some negative biological side effects, their ability to act as enzyme inhibitors as well as having some other biological activities makes chalcones good candidates for drug development. Novel chalcone derivatives with either a  $-\text{COOEt}$  or a  $-\text{COOH}$ -group attached to the  $\alpha$ -carbon were synthesized using an acid catalyzed aldol reaction. Kinetic NMR studies were performed to determine the reactivity these differently substituted chalcones. Further reactivity studies will give a better understanding of the influence of the substituents and open doors for future drug development.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **A New High School Experiment on Crystal Growth**

Javon Gill and Shelby Coleman

Lawrence Kolopajlo, faculty mentor

In order to develop a high school laboratory on crystal growth, the crystal growth of gypsum, calcium sulfate dehydrate, was investigated at  $25.0^\circ\text{C}$ . Inducing crystallization by adding grown seeds to a supersaturated solution, and monitoring growth using a calcium electrode proved too difficult for a secondary school lab. However, a successful procedure suitable for high school was developed using: a) a conductivity detector to monitor crystallization and b) replacing seed crystal with reagent grade gypsum. The resulting conductivity versus time curves showed two phases: 1) rapid nucleation followed by 2) slow crystal growth.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Characterization of the Histone Binding Properties of a UHRF2 TTD Mutant by FP Assay**

Shane Ginnard

Brittany Albaugh, faculty mentor

UHRF2 is a histone reader protein that is either overexpressed or absent in many types of cancer. UHRF2 has a domain, the Tandem Tudor Domain (TTD), which recognizes trimethylation of Lysine-9 of Histone H3 and regulates the expression of tumor suppressors. To characterize the pi-cation interaction between Tyrosine 213 and 216 of the TTD of UHRF2 with trimethylated Lysine-9 of Histone H3, a mutant was developed by inverse PCR, replacing both Tyrosine 213 and 216 with Alanine. After expression in Rosetta *E. coli*, the mutant UHRF2 was purified and a fluorescence polarization assay was performed to determine the dissociation constant.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Six-Month Study of Water Quality Parameter of the Ponds at Eastern Michigan University Main Campus**

Omid Hajihassnai and Robert Wagner

Jose Vites, faculty mentor

Two of the ponds at Eastern Michigan University were studied as part of a larger study on the water quality of tributaries to the Huron River. Physical and chemical properties of the waters over the duration of this study correlate with seasonal changes and management activities of these ponds by EMU. Field measurements include pH and dissolved oxygen among others. Laboratory detection of anion concentration used the EPA 300 method uses an Ion Chromatography HPLC system. Results showed marked fluctuations in physical properties specially color for both ponds and chemical composition particularly chloride ion concentrations for the pond adjacent to Bob's Lake House.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Trapping aza-Cope Rearrangement Product to Form Molecular Scaffolds for Pharmaceuticals**

Ashton Havens

Harriet Lindsay, faculty mentor

Aza-Cope rearrangement of iminium cations is a potential "green" source of  $\beta$ -amino acids, which have a broad application in antimicrobial and anticancer drugs. The aim of this research is to develop methods for the efficient synthesis of  $\beta$ -amino acid precursors utilizing the aza-Cope synthetic pathway. Previous research in the Lindsay group has shown that the aza-Cope rearrangement of iminium cations is possible, though the rearrangement product quickly undergoes a transimination reaction before it can be isolated. Current efforts are focused on trapping the aza-Cope product before transimination can occur.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Mass Spectrometry for Differentiating Blue Dyes in Archaeological Textiles**

Precious Humphrey

Ruth Ann Armitage, faculty mentor

Indigo has a long and prestigious history from the ancient past to our blue jeans today. Indigotin is a dark blue colorant produced from Indigofera, Isatis and other plants when they are crushed, fermented, and then reacted with oxygen. All of the indigo-producing plants undergo the same chemistry, so they are difficult to differentiate from each other in textiles. Archaeologists and conservators are interested in sourcing the colors that ancient people used. This research seeks to differentiate blue dyes made from the various plant sources, both in lab-prepared materials and in historic and archeological textiles through the use of ambient ionization mass spectrometry methods.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **A New Version of an Organic Chemistry Reaction to Access Pharmaceutical Building Blocks**

Caitlin Keif

Harriet Lindsay, faculty mentor

Spirocyclic pyrrolidines are molecules that show potential as pharmaceuticals. Accordingly, it would be useful to have the methods to make these molecules to create a large number of similar compounds for further testing. My proposed reaction, the aza-Cope/Mannich reaction (ACM), would allow these molecules to be produced efficiently while also minimizing waste. However, my starting material is produced as two different forms which are notoriously difficult to separate. Through selectively forming a salt, I have worked to separate the different forms. Current efforts are focused on scaling up the salt formation and then using the salt for ACM reactions to products.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Characterization of Amino Acid Residue D363 in the Epigenetic Cancer Protein UHRF2**

Hana Khan

Brittany Albaugh, faculty mentor

UHRF1 and UHRF2 are two types of histone reader proteins involved in epigenetic regulation. Specifically, UHRF1 is an oncogene that is expressed in different cancer tumors while UHRF2 is a tumor suppressor gene that is often repressed in cancer. The objective of our study is to understand the role of amino acid residue D363 that lies in the Plant Homeo Domain (PHD) in UHRF2. To accomplish our objective, we used cloning and mutagenesis to produce a D363A mutant. We are currently expressing and purifying the protein and using fluorescence polarization binding assays to examine the role of the D363 in binding histone H3.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Synthesis and Characterization of Functionalized Block Copolymers for Catalysis of Organic Reactions**

Timothy Knittle

Gregg Wilmes, faculty mentor

Block copolymers are large molecules with chemically distinct portions that may be designed to spontaneously assemble into micelles in water. The addition of organic catalytic groups allows them to act as catalysts for organic reactions. A small-scale synthesis of functionalized di-block copolymer of methyl methacrylate (MMA) and N-isopropyl acrylamide (NIPAM) was achieved which incorporated catalytic methyl amino pyridyl methacrylate (MAPMA) groups. Nuclear magnetic resonance spectroscopy showed that the copolymers formed micelles in water at room temperature and disassembled at 80°C, suggesting that they could be used as a recyclable organic catalyst.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Environmental Variables and Their Effect on Cyanobacteria Populations in 13 Stratified Lakes**

Jacob Kowalczyk, Joseph Proietti and Richard Wagner

Jose Vites and Steven Francoeur, faculty mentors

Global climate change caused by anthropogenic activity is creating conditions that promote the formation of harmful algal blooms by cyanobacteria in many freshwater lakes. The purpose of this study is to quantify the amounts of cyanobacteria in 13 stratified lakes throughout the Huron River Watershed, investigating their correlation to environmental factors (e.g. pH, dissolved oxygen, nutrient concentrations, etc.). Lakes were sampled one to two times a month from May-October, 2016. Results showed correlations between urbanization and increased cyanobacteria. This study increases understanding of what environmental conditions promote and/or limit cyanobacterial growth in temperate lakes.

ORAL SESSION B — ROOM 352 — 10:30 A.M.

## **Synthesis of Novel Chalcone Derivatives as Anticancer Agents**

Alexis Marsh

Ingo Janser, faculty mentor

Chalcones consist of an  $\alpha,\beta$  unsaturated carbonyl unit connecting two aromatic rings. Our goal is to enhance anticancer properties of chalcones by varying substituents on the rings. A specific focus is the  $\alpha,\beta$  unsaturated unit's interaction with Glutathione S-transferase (GST). Active GST allows cancer cells to rapidly divide and also deactivates chemotherapeutics. Our chalcone synthesis starts with 4-formylbenzoic acid and substituted acetophenone. Next, the -COOH group is converted to an amide by a coupling reaction with phenylethylamine. These novel chalcone amides are tested against GST for their inhibition activity and against cancer cell lines for their effect on cell proliferation.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Mapping the Atg9 Binding Site on Atg11, an Organizer of the Selective Autophagy Initiation Complex**

Mitchell Meyer and Damien Sheppard

Non-Presenting Co-Author: Jasmine Winzeler

Steven Backues, faculty mentor

Autophagy is a process by which cytosolic material such as organelles are broken down by being enclosed in vesicles called autophagosomes (AS). Autophagy plays central roles in regulation of inflammatory responses and protection against neurodegenerative diseases. The process of autophagy involves dozens of autophagy-related proteins (Atg) that assemble to make the pre-AS structure (PAS). Atg11, a crucial protein in the formation of the PAS, contains two coiled-coil domains, CC2 and CC3, which are the primary binding site for Atg9 recruitment. Here we study the interaction and role played by CC2 with Atg9 through use of a Yeast-2-Hybrid Screen using CC2 mutants from error-prone PCR.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Study of Ion Concentrations in Drinking Fountains at Eastern Michigan University**

Aubrey Mikovits and Ahmed Mohamed

Jose Vites, faculty mentor

Water quality is vital in protecting societal public health, supporting the economy and maintaining a rich ecosystem. Drinking fountains on campus are used by many people daily and serve as an essential source for water intake. This study determined water quality using EPA 300 Method for the determination of ions in drinking water using Ion Chromatography (HPLC). Fluoride, chloride, nitrite, bromide, nitrate, sulfate, and phosphate ions were measured. Water samples from the Student Center, Strong Hall, and Mark Jefferson Hall drinking fountains were collected. All fountains were found to meet drinking water standards. Variations in concentrations and their possible reasons are discussed.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Molecular Characterization of UHRF1 and UHRF2 in Cancer**

Ahmed Mohamed

Brittany Albaugh, faculty mentor

UHRF1 and UHRF2 are two epigenetic proteins that are involved in cancer development. These two proteins have similar amino acid sequences but play opposite roles in cancer. UHRF1 is an oncogene and UHRF2 is a tumor suppressor. Although previous studies determined the binding affinity of UHRF1 to H3, the binding affinity of UHRF2 to H3 was unknown. In this study, we determined the binding affinities of the PHD domains of UHRF1 and UHRF2 to both trimethylated lysine on Histone H3 and unmodified H3 by fluorescence polarization assay. Our results suggest the PHD of UHRF2 has lowered binding affinity to H3 versus UHRF1, and these proteins use a distinct mechanism of histone binding.

ORAL SESSION D — ROOM 320 — 3:30 P.M.

## **Affinity Characterization of the TTD Domain of UHRF2, a Tumor-Suppressor and Oncogenic Protein**

Timothy Petzold

Brittany Albaugh, faculty mentor

One proposed method for anticancer drug development is to target epigenetic proteins, which regulate genome expression and are involved in various cancers. UHRF1 is an oncogene and its binding affinity to histone H3 has been well-determined via its PHD and TTD domains. The homologue, UHRF2, has both tumor-suppressor and oncogene properties, but its affinity for H3 has not been assessed. In this study, we characterized the binding affinity of the TTD domain of UHRF2. The dissociation constant between H3K9me3 and the TTD of UHRF2 was determined by fluorescence polarization assays. Interestingly, previous assays suggest that the linker portion between TTD and PHD inhibits TTD binding.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Synthesis and Evaluation of a New Class of Inhibitors of Plasminogen Activator Inhibitor-1**

Justin Powers and Tommy Lepley

Cory Emal, faculty mentor

Plasminogen activator inhibitor-1 (PAI-1) is a mammalian protein involved in multiple cellular processes, including regulation of fibrinolysis. The primary inhibitory targets of PAI-1 are enzymes whose activity ultimately lead to the dissolution of blood clots. The presence of increased levels of PAI-1 leads to increased clotting, and is a well-established risk factor for multiple disease conditions. Pathological levels of active PAI-1 in plasma are correlated with the development of atherosclerosis, stroke, kidney fibrosis, and certain forms of cancer. In this study, we describe the synthesis and biological activity of small molecules that aim to reduce active PAI-1 levels.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

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## **Chemical Analysis and Radiocarbon Dating of Archaeological Textile Fragments from the Seip Mound**

Michaela Repaska

Ruth Ann Armitage, faculty mentor

The primary purpose of this project was to characterize and date fragments from a textile canopy from the Seip Mound group to understand how it was constructed. The Seip samples were prepared for AMS radiocarbon dating with a minimally destructive method using plasma-chemical oxidation (PCO). Analysis of green staining on the samples was also done by direct analysis in real time mass spectrometry (DART MS) and then compared with mock-ups of possible binding media. Principle components analysis (PCA) is being investigated to determine what if any of those materials were used in preparing the decorations on the Seip canopy.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **The Adsorption and Oxidation of Carbon Monoxide on Rh (110)**

Maira Shoukat

Ross Nord, faculty mentor

The reaction between carbon monoxide and oxygen on Rh (110) is important due to its catalytic properties (e.g., pollution control and fuel cells). Cudia *et al.* experimentally studied this reaction and postulated two reaction mechanisms. We have developed a computer simulation to explore the proposed low-temperature mechanism. We are using it to learn about the interaction between carbon monoxide and oxygen by changing the model's parameters (size of surface, rate constants, length of simulation).

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Analysis of Variable Regions in Feline Leukemia Virus Envelope Sequences**

Brianna Sohl

Heather Holmes, faculty mentor

Feline Leukemia Virus (FeLV) is a retrovirus that affects domesticated cats and other species in the *Felis* genus. There are three major subtypes, each characterized by unique disease progression and proviral sequences. FeLV-A is not pathogenic, -B has been associated with tumors, and -C causes severe anemia. Proviral sequences were amplified using PCR with FeLV-specific and adapter-specific primers. The method of primer walking has yielded consensus sequences for several fragments of 1,000-3,000 base pairs of proviral DNA. Sequences for ten different clones of the envelope and endonuclease integrase region of provirus from a FeLV positive blood sample were compared to known sequences.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Cisplatin Analogs in the Treatment of Triple Negative Breast Cancer in Vitro**

Sruti Somani

James Hoeschele and Brittany Albaugh, faculty mentors

Cisplatin analogs are being evaluated for their effectiveness in inhibiting the growth of MDA-MB-231 triple-negative breast cancer (TNBC) cells in vitro. The platinum(II) compounds studied were selected based on their potential inhibitory effects on cancer cells. These drugs were applied to MDA-MB-231 cells and cell viability tested by the MTT assay. Results indicate that Kiteplatin, a known, effective antitumor agent having moderate neuro- and nephrotoxicity, is more effective than Cisplatin, the current drug used in TNBC chemotherapy treatment. Additional research will seek a drug which has a lower neuro- and nephrotoxicity but is still effective in treating TNBC cells.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Determining the Residues Necessary for Self-Interaction of Atg11, a Selective Autophagy Protein**

Zachary Spearin, Jesse Smith and Hayley Cawthon  
Steven Backues, faculty mentor

Autophagy is a process conserved throughout eukaryotes in which a cell forms a double membrane known as an autophagosome around intracellular content and then transports it to the vacuole/lysosome to be degraded. Current research is focused on understanding how autophagy related (Atg) proteins control this process. Atg11, a protein essential for selective autophagy, interacts with other proteins using its second and third coiled-coil (CC2-3) regions. These interacting proteins include Atg9, Atg20, Atg29, Atg1, Ypt1, and itself. The goal of this research is to determine which residues of Atg11 are required for its self-interaction using a random mutagenesis/ yeast two hybrid screen.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **The Effect of Two Methyl Substituents on the Stereoselectivity of an aza-Cope—Mannich Reaction**

Terrence Stahl  
Maria Milletti, faculty mentor

Many drug compounds and natural products include a pyrrolidine ring in their structure. Usually only one of the possible stereoisomers is present, as the other form can be toxic or inactive. In this work we use computational methods to determine whether an aza-Cope—Mannich reaction can be used to produce an acyl pyrrolidine stereoselectively from a substituted oxazolidine. We examine an oxazolidine with two methyl substituents and determine whether their presence can hinder bond rotation and enhance selectivity.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Synthesis and Characterization of CPA-7 Analogs**

Cameron Talbot  
James Hoeschele, faculty mentor

CPA-7 (*fac*-PtCl<sub>3</sub>(RNH<sub>2</sub>)<sub>2</sub>NO<sub>2</sub>; R=H) is an asymmetric Pt(IV) complex that is active against glioma tumor cells in vitro. However, CPA-7 is ineffective in vivo because it is too polar to cross the blood-brain (BB) barrier. The mechanism of action of CPA-7 involves the inhibition of the STAT3 signal transduction pathway. To enhance the activity vs. glioma cells, we are preparing analogs of CPA-7 (R= alkyl) that are more lipophilic than CPA-7 that will hopefully be able to penetrate the BB barrier. This poster presents a summary of our synthetic work as well as the antitumor test data for these analogs.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.



## **Effect of Ion Composition in the Aqueous Medium Used for Oat Seed Germination and Plant Growth**

Amanda Wardin

Jose Vites, faculty mentor

The effects of nutrient ions such as nitrates and phosphate on plant growth are well known. We investigated the effect of different growth regimes containing nutrient and non-nutrient ions in a variety of concentrations and their effect on oat germination and growth. Measurements of ion concentrations were carried out using ion chromatography analysis. *Avena sativa* growth showed some dependence on the composition of the aqueous medium used. Differences in ion intake were also observed. These findings contribute to a better understanding of how the presence and absence of ions affects the growth and health of *Avena sativa*.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Synthesis and Characterization of Riparin Derivatives**

Jesse Wotring and Alan Fried

Ingo Janser, faculty mentor

Riparins are a class of naturally occurring molecules found in the plant *Aniba riparia*, which are known to have biological activities including potential roles as antioxidants, anticancer agents and antidepressants. Very little is known about their specific biological activities, structure-activity relationships, or physical properties. We synthesized riparins with various substituents attached to their two aromatic rings, and investigated the influence of these substituents on the properties of our novel riparin compounds. The synthesis and characterization of riparin derivatives will improve the understanding of these compounds and make them a better option for future drug development.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Computational Study of the Nucleophilic Attack of an $\alpha$ - $\beta$ Unsaturated Carbonyl by Methanethiol**

Dilann Yasin

Maria Milletti, faculty mentor

Michael systems, or  $\alpha$ - $\beta$  unsaturated carbonyl compounds, are the building blocks of drugs used to combat viral infections. Here we delineate the reaction pathway of the nucleophilic attack of a simple Michael system by methanethiol, a model of drug-enzyme interactions. This template pathway will be used to model other, more complex and variously substituted Michael systems. Using computational methods, we determined the structure and energy of key intermediates and transition states, all of which involve two solvent molecules.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Purification and Characterization of the Coiled-Coil 2-3 Region of the Autophagy Protein Atg11**

Carson Zois

Non-Presenting Co-Author: Bridget Kennedy

Steven Backues, faculty mentor

Autophagy is physiological process for the destruction of internal cell components to promote cell survival. This process allows the cell to maintain homeostasis during times of starvation, recycle damaged cellular components, and protect against disease. One of the most understudied proteins in selective autophagy is Atg11. Atg11 has been shown to interact with a number of other autophagy proteins and is therefore thought to be a central organizer of selective autophagy. However, it is not known if Atg11 organizes its binding partners spatially or temporally. We have expressed and purified our target region of Atg11 and begun to investigate its interaction behavior.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **SCHOOL OF COMMUNICATION, MEDIA & THEATRE ARTS**

### **Seeing Eye to Eye: Dialogic Engagement and Tom Hansen's "Crying Uncle"**

Jasmyn Barringer

Anita Rich, faculty mentor

Experiencing literature is typically limited to the reading of texts, but there is a greater intimacy that can be forged between a text and its audience. This presentation will explain how oral interpretation invites readers to use their intertextuality when developing interpretations. Furthermore, it demonstrates how a performer extends literary analysis and strives to come to a dialogic engagement with the other. *Seeing Eye to Eye* examines how moving a text from the page to the stage allows the opportunity to abandon biases and employ empathy when approaching a persona. A performance of Tom Hansen's "Crying Uncle" is included in this exploration.

ORAL SESSION C — AUDITORIUM — 1:45 P.M.

### **The Rise of the Bullet Proof Hero**

Jordan Causey

Sadaf Ali, faculty mentor

With the rise of police violence against African Americans, young African Americans have a hard time seeing positive visuals in the media. But film companies have begun to counter this negative image. For example, Marvel has brought the characters Black Panther and Luke Cage to the screen, giving audiences, especially young African Americans, positive representation. One character is a kind man with unbreakable skin who helps his community by ridding it of the local gangsters. The other is a king from Wakanda who wants to save the world while also staying true to his roots. This study will delve deeper into this idea, exploring how and why these characters are important for today.

ORAL SESSION B — ROOM 320 — 11:15 A.M.

## **Sexting as Relational Communication in Long-Term Romantic Relationships**

Catie Cole

Dennis O'Grady, faculty mentor

Previous research on sexting has focused on people who are acquaintances or in casual relationships, yet there is a gap that remains in regards to the scholarly examination of sexting within long-term relationships. Scholars note that such communication could impact couples' sexual satisfaction, overall marital or relational satisfaction, and even their decision to stay in or terminate the relationship. Interviews were conducted with 10 individuals in long-term romantic relationships to examine motivations, forms, and effects of sexting in those relationships.

ORAL SESSION B — ROOM 350 — 11:30 A.M.

## **Virtual Reality and Theatre: The Design of Digital Art to Enrich the Experience of the Production**

Aaron Delnay

Jeromy Hopgood, faculty mentor

In theatre, directors and designers come together to create an experience that reinforces critical moments and emotions. Within the process of creating a production, however, miscommunication of ideas can occur. Models of the set design are helpful but they do not fully represent the space, size, and set as a whole. Using virtual reality (VR) software, a scenic designer can create any theatrical space. Then, with a VR headset, directors and team members can physically walk the space in virtual reality and suggest changes before the set is built. Students can also use this software to experiment with their ideas and create new and inventive sets for production.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Eastern Michigan University Convocation Center: Back to School Concert**

Evan Ficaj

Michael Tew, faculty mentor

This thesis serves as a complete event manual for promoting a back-to-school concert at the EMU Convocation Center and includes details of the event, promotion and public relations efforts, and venue specifications. The back-to-school concert started from equal parts passion and the recognition that college students in the Metro Detroit area have few outlets (and none of this caliber) during the start of the Fall semester to meet fellow students, create new and long-lasting friendships, and kick off the school year on a high note. A concert fills this gap and is an opportunity for students and brands to connect at one of the most formative points in one's life: college.

ORAL SESSION A — ROOM 320 — 10 A.M.

**The Age of Olympic Intersex Athletes**

Victoria Fields

Melissa Mantei, faculty mentor

Dating back to the 1930s, scientists believed that testosterone was a hormone found exclusively in male bodies, and estrogen was a hormone found exclusively in female bodies. However, this concept was determined to be invalid when doctors discovered that people were living their lives as the “wrong” sex or in other words, as intersex. This paper explores the practices and history of this controversial issue, which has influenced the debate over allowing female intersex athletes to compete with women in the Olympics.

ORAL SESSION D — ROOM 352 — 3:45 P.M.**Macbeth Projection Mapping**

Christine Franzen

John Charles and Jeromy Hopgood, faculty mentors

This display will detail the making of the projection mapping designed for EMU Theatre’s October production of *Macbeth*. The projections served as the main setting indicator for every scene and were tailored to fit irregularly-shaped set pieces. The presentation will include a video about the process from start to finish as well as images from the production.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.**Intrigue or Intrusion: Relevance of Online Advertising**

Madison Harmon

Amanda Karel, faculty mentor

Given the surge of online activity in everyday life, understanding consumers’ perception of online advertisements is important to the success and survival of modern businesses. This research analyzes internet users’ opinion of online advertising that might be viewed as an invasion of their private sphere. Survey results suggest that online advertisements were more effective when endorsed by friends and celebrities and that the effectiveness of specific channels depended on the age of the participant.

ORAL SESSION C — ROOM 320 — 1:30 P.M.**Student Housing Options On and Off Campus**

Rebekah Kakos

Carol Schlagheck, faculty mentor

Housing is a huge decision for students. The location, safety, dining options, and costs are major factors in this decision. This journalistic report includes interviews with students living in the residence halls and in off-campus apartments, local apartment complex employees, Housing and Residence Life employees, and campus police officers. The report also features a comparison of all locations. The goal of this report is to help EMU students and their parents find the best living options.

ORAL SESSION A — ROOM 320 — 9:45 A.M.

## **Draping: The Design Process of an Asymmetrical Sweatshirt**

Hayden Keene

Melanie Schuessler Bond, faculty mentor

Design is all around us, from the clothes we wear to the buildings we inhabit. Yet, not many think about how things get transformed from the ideas of a designer into the objects we see. Draping is the process of arranging fabric on a form to create the base construction of a garment which can then be transferred into a paper pattern for repeated use. This project breaks down the process of garment design from first sketch to finished product through the process of draping.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Creating a Time Period with Sound**

Malik Mathis

Jeromy Hopgood and John Charles, faculty mentors

This presentation focuses on the sound design for EMU Theatre's 2017 production of *A Raisin in the Sun*. Cut pieces of music and sounds were assembled with programs such as Audacity, Logic, and QLab. The design created a rich environment showcasing jazz, blues, gospels, and even traditional African drums to help tell the story of the play.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Measuring and Enhancing AMPLifying the Arts Student Organization's Impact**

Taylor McMullen

Susan Badger-Booth, faculty mentor

The goal of this project is to make the knowledge, resources, and services of the Amplifying the Arts (AMP!) Student Organization available to more EMU student artists. AMP! was formed in 2007 by a group of students in the Arts and Entertainment Management program with the vision of connecting EMU student artists to audiences. Ten years into the collaboration of the Academic Service-Learning classroom project with the AMP! Student Org we are measuring the impact we have had on student artists and the Arts Management program. How can we enhance the connection between these two groups of students, while continuing to support a vibrant arts and cultural sector on our campus and in our local community?

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **The Audacity of Obama: Using Ethos to Create Opportunity**

Kristina Moore

Anke Wolbert, faculty mentor

Following Barack Obama's 2004 keynote speech, "The Audacity of Hope," the media exploded with quizzical headlines regarding his potentially bright future. Using an Aristotelian lens, this paper analyzes the use of ethos in Obama's speech to explore any possible impact of such appeal on his career. In particular, the analysis focuses on the presence of three branches of ethos in the speech: competency, moral character, and good will. Through this analysis, it is evident that his DNC keynote speech could have elevated Obama himself toward the presidency rather than the candidate for whom he was campaigning.

ORAL SESSION D — STUDENT ART GALLERY — 4 P.M.

## **Amanda Palmer's Volunteer Advertisement**

Michael Neal

Anke Wolbert, faculty mentor

This paper examines the contrasting perspectives surrounding Amanda Palmer's volunteer advertisement of August 21, 2012. The analysis utilizes Jim A. Kuypers' Framing Analysis, as detailed in *Rhetorical Criticism; Perspectives in Action* and discusses the intended messages of Palmer's advertisement, her critics' and fans' interpretations of it, and the messages they convey. The evaluation of surrounding circumstances with regards to Kuypers' Theory of Agenda-Setting and Agenda-Extension draws material from noteworthy and relevant thought pieces concerned with the issue.

ORAL SESSION C—ROOM 320—2 P.M.

## **The Thin Blue Line: A Visual Rhetorical Criticism**

Kathleen Nymberg

Anke Wolbert, faculty mentor

This study explores the visual arguments present in the "Thin Blue Line" United States flag, a visual response designed to show support for police who have come under scrutiny for racism and brutality. The critique uses Sonja Foss's Theory of Visual Rhetoric. This study found that the flag serves as a symbol of unity, pride, and promotion of law enforcement's mission. The flag is both effective and ineffective in its rhetoric, as some support while others reject the imagery.

ORAL SESSION D — STUDENT ART GALLERY — 3:45 P.M.

## **Understanding the Communication Methods and Leadership Styles of EMU's Honors College Student Fellow Program**

Lauren Renou

Linda Foran, Dennis O'Grady, Jackie Tracy  
and Rebecca Sipe, faculty mentors

The purpose of this research is to explore the communication methods and leadership styles that have emerged from participants in Eastern Michigan University's Honors College Student Fellow Program. Through a quantitative study, the researcher will investigate current and past program participants' impressions of the communication methods and leadership styles that were developed within the Honors College Student Fellow Program. A literature review of other Honors College "Student Fellow" programs will also be included in this study.

ORAL SESSION A — ROOM 330 — 9:45 A.M.

## **Properties from EMU Theatre's *Christmas Carol'd***

Sera Shearer

John Charles, faculty mentor

This presentation is a compilation of the properties created and altered for EMU Theatre's production of Joe Zettelmaier's *Christmas Carol'd*. All of the works are heavily researched pieces meant to look like historically accurate pieces from the Victorian Gothic period while still maintaining the convenience of modern amenities. The display will include a few physical items from the show as well as photographs of larger items, sketches, process pictures, and research information.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Ambiguity, Nonverbal Cues, and Text Messaging: A Model**

Shengwei Wang

Dennis O'Grady, faculty mentor

This project explores the degree to which the emotional concepts of a message communicated through electronic devices such as cell-phones or computers can be manipulated by people, which may lead to misunderstanding and misinterpretation. Without the support of nonverbal cues, it can be hard for people to interpret the authentic emotions or the "hidden meaning" of messages. Thus, the possibility of confusion and misinterpretation is increased compared to face-to-face conversations.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **DEPARTMENT OF COMPUTER SCIENCE**

### **IoT Security**

Zachary Collins

Biswajit Panja, faculty mentor

As our world evolves, and more devices are connected to the Internet of Things (IoT), our need for security drastically increases. The goal of my project is to create a secure framework for Internet-connected devices. This framework detects and terminates a variety of different security breaches by means of machine learning and heuristics. Included in the framework is tooling that may be used to simulate different types of security breaches, so that there may be demonstrations given on how the network deals with different threats.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Improving Education using Big Data**

Paul Gossman

Andrey Kashlev, faculty mentor

Traditional attendance tracking methods using roll call or sign-in sheets are time consuming for millions of students and instructors. Besides, they provide no insights, such as, "absence at which topics affected students' understanding of material?" We designed a scalable NoSQL big data model for storing attendance data of millions of students and an application that uses this data model to allow students to check-in for classes with their smartphones. Our data model and application: 1) provide a quick and secure method for taking attendance with smartphones, 2) create smart reports for instructors, and 3) enable insights into students' academic progress by analyzing collected data.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Last Night: A Survival Horror Video Game**

Andrew Hunn

Susan Haynes, faculty mentor

Inspired by the canceled video game *Silent Hills*, *Last Night* is a video game programming project developed using the Unity game engine. Trapped in a familiar house, things are not what they seem. Separated from your daughter, your goal is to find her and escape this nightmarish place while figuring out what got you there in the first place. Better act fast; you are not alone. This project combines manipulated 3D game objects with scripted elements coded in Unity's version of C# as well as JavaScript. Along with the end game product, this work will show the key factors in game development from inspiration to implementation.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Service Reporter Using Python**

Gillian Lemke

Elsa Poh, faculty mentor

EMU students participate in security competitions that test an opposing team's ability to protect and attack computer services that are running. A web-based scoring application using the Python scripting language will be developed to check if specified services are running. The program will also be able to award points for successful deployment and track the time in which teams can maintain operation. Authentication using username and password will be implemented to identify the correct team. The application will then test for the indicated services, presenting scores through the web browser. Future implementations of the program will ideally be used to practice for indicated security competitions.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.



## **Streamlining the Honors Exit Interview Process**

Christina Spalding and John Davis

Krish Narayanan, faculty mentor

The Honors College exit interview is a manual process which all Honors students must go through before graduating from the college. The objective of this project is to simplify and partially automate the lifecycle of this process. Our simple, web-based application, built using PHP and MySQL will replace a series of surveys, paperwork, and email correspondences that involved significant human intervention. This presentation will focus on the design, implementation, and integration of the new system.

ORAL SESSION A — ROOM 330 — 10 A.M.

## **An Approach Towards Security on a Connected Highway**

Raymond Willett

Biswajit Panja, faculty mentor

Autonomous vehicles are quickly becoming available and with them come many familiar security concerns. *Quantization for Automotive Network Security* proposes a high-level approach towards data security and privacy regarding vehicle-to-vehicle and vehicle-to-infrastructure communication, encryption standards to minimize threats from external actors, and identity verification using trusted third-party actors. The goal is to lay out in simple terms the difficulties that autonomous vehicles will need to address in order to be truly secure, as well as to explore one possible solution.

ORAL SESSION D — ROOM 301 — 3:30 P.M.

## **DEPARTMENT OF ECONOMICS**

### **Foreign Aid Leading to Corruption in Mali**

Fatoumata Zahara Fofana

James Saunoris, faculty mentor

Mali is one of the poorest countries in sub-Saharan Africa in terms of real GDP per capita, and ranks 182 out of 186 on the Human Development Index (HDI). For this reason, Mali is heavily dependent upon foreign aid, both multilateral and bilateral aid. Foreign aid provides many economic benefits to the Malians, but it also imposes economic costs that have negative consequences for growth and development. To ascertain the effectiveness of foreign aid in promoting economic development the purpose of this study is to conduct a cost-benefit analysis of foreign aid. The results of this study will shed light on whether foreign aid provides a net benefit or a net cost to the Malians.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## DEPARTMENT OF ENGLISH LANGUAGE & LITERATURE

### **The LGBT Experience in Education: Are We Meeting the Needs of a Diverse Population?**

Katie Baker

David Calonne and Natasha Wickenheiser, faculty mentors

From our general population, our diversity has been expanding. The question is whether or not we are meeting the educational needs of an increasingly diverse population. In regards to the LGBT community, through research done by independent agencies and my interviews, it has been shown that there is still work to do, even in progressive environments. In my presentation, I highlight some of the struggles that these students face and offer insights with some plausible solutions. Simple, yet effective solutions such as placing a safe space sticker in a classroom that truly is a safe space, afford a strong visual indication to students that intolerance will not be allowed.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

### **Superficiality and Maturity within J. D. Salinger's *The Catcher in the Rye* and Mark Twain's *The Adventures of Huckleberry Finn***

Louise Barbosa

Joseph Csicsila, faculty mentor

This project provides an analysis of the concept of maturity between post-colonialism and modern literature through a close reading of Mark Twain's *The Adventures of Huckleberry Finn* and J. D. Salinger's *Catcher in the Rye*. Both Huck and Holden reside in a world where growing older means accepting the often-fake communities that regulate societal norms; and both continuously jump into different aspects of surrounding communities only to recede back into loneliness that does not require them to face the realities of mainstream society. This research not only focuses on the similarities between the two novels, but also the reception of these novels by school systems and communities that test their literary value.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

### **Intersectionality of Women in Ruth Kluger's *Still Alive* and Anzia Yezierska's *Bread Givers***

Matthew Benkarski

Elisabeth Däumer and Carla Damiano, faculty mentors

Within both texts we find two passionate and vehemently independent women who seek to go their own way and diverge from what is expected of them by their more traditional Jewish families. Responding to the societal enforcement of patriarchal gender roles, and doubting the validity of their own traumatic experiences, both women pay a high price for questioning the expectations set for them by others.

ORAL SESSION D — ROOM 350 — 3 P.M.

## **The Cost of a Dream**

Zachary Bennett

Christine Hume, faculty mentor

In the United States there is a shared impression that racism is an ideology that we, as a society, can triumph over. With my sound poem, I question that thinking. What if it will never get better? What if it is all a lie? This piece makes the listener truly rethink the price of living in the United States and the price of “freedom.”

ORAL SESSION C — AUDITORIUM — 2:15 P.M.

## **African American Language and Identity on *Black-ish***

Hope Coulter

Eric Acton, faculty mentor

The purpose of this research project is to look at the relationship between African American Vernacular English (AAVE) and identity on *Black-ish*, a sitcom centered on an upper-middle class African-American family. While AAVE is most closely associated with the working class, it is an important cultural symbol for many African Americans across class boundaries. I examined the rate of use of phonological and morpho-syntactic aspects of AAVE among the show's main characters. A clear pattern emerges where older generations use more AAVE features than the younger generations, with only one exception. I will discuss these findings and their implications concerning the characters' identities.

ORAL SESSION B — ROOM 320 — 11 A.M.

## **The History of Black!Hermione: How Fandoms Influence Media**

Sarah Coury

Annette Wannamaker, faculty mentor

On December 21, 2015, the cast for J.K. Rowling's new play, *Harry Potter and the Cursed Child*, was announced to the world. The decision to cast actress Noma Dumezweni as Hermione Granger was one that sparked international controversy, rooted in the idea that a black actress could not properly portray the character on stage. However, Hermione Granger's race has been evolving and adapting within online culture for years before *Cursed Child* was even imagined and, in fact, may have even influenced the casting decision. By exploring the history of Hermione, this presentation examines the relationship between fandoms and the media they consume.

ORAL SESSION B — ROOM 320 — 10:45 A.M.

## **It's All Fun and Games: An Exploration of the Golem in Gaming**

Sarah Coury

Jessica De Young Kander, faculty mentor

The golem, a creature originating in Jewish folklore, appears frequently in the world of gaming. This presentation looks at the path of the golem throughout gaming history, starting with the 1970 release of *Dungeons & Dragons* and working up to current and future releases of major video games. By examining the way in which the golem has been portrayed through these mediums, we may also be able to learn how people are asked to empathize with and experience Jewish culture.

ORAL SESSION D — ROOM 330 — 3 P.M.

## **Japanese Syllable Structure and How Constraints on Syllable Weight Impact Word-Borrowing**

Cassidy Creech

Beverley Goodman, faculty mentor

One of the key differences between Japanese and English is that Japanese follows much narrower constraints on what sounds can make up a syllable. In Japanese, syllable weight plays a crucial role in word formation. Each sound is considered to have weight such that some sounds never occur juxtaposed and most consonants never end a syllable. This presentation will provide an analysis of how Japanese syllable structure impacts its own words, as well as how it transforms, and thus facilitates, the assimilation of words borrowed from other languages.

ORAL SESSION C — ROOM 350 — 2 P.M.

## **The Nature of Identity: Ecofeminism, Women's Poetry and The Power of Reclaiming Common Oppressions**

Jessica Dailey

Laura George, faculty mentor

I argue that the presence of Ecofeminism in women's poetry can empower women today who engage in feminist activism. The systematic oppression experienced by women is paralleled by the destruction inflicted upon nature (including animals). By recognizing these as similar, women can reclaim their connection to nature (while rejecting the idea that this is essentialist). Through this connection women as readers find an escape from patriarchy, the male gaze, and sexual violence in Ecofeminist poetry.

ORAL SESSION B — ROOM 304 — 11:15 A.M.

## **All About Dat Bass or Linguistic Blackface: White Pop Artists and African American English**

Sovoya Davis

Eric Acton, faculty mentor

This work explores America's love-hate relationship with African American English (AAE). As Linguist Geneva Smitherman points out, AAE is both stigmatized and superficially celebrated in the U.S. Focusing on White pop artist Meghan Trainor, I examine the role of AAE in her music and interviews and how her use of AAE relates to her image, the content of her songs, and how she is viewed. Despite the fact that some people benefit from its commodification, AAE and its native speakers continue to be discriminated against in most contexts.

ORAL SESSION C — ROOM 350 — 2:30 P.M.

## **Children's Acquisition of Resultative Adjectives**

Connor De Haan, Marley Beaver, Allyson Brown and Anna Mae Bower  
Daniel Seely, faculty mentor

Adult English speakers possess a linguistic constraint that dictates that when an adjective follows a noun, it is interpreted as the result of the verb (e.g., "He painted the fence white"; cf "He painted the white fence"). This constraint is never explicitly taught, but all English speakers possess it. The goal of our research is to investigate when children acquire this constraint. In a pilot study conducted with children ages 2.5-3.5 years, we configured a scenario to evaluate their comprehension of resultative adjectives. The pilot data indicated that children as young as 3.5 years may have the constraint. Further study will help determine how children acquire a sophisticated adult grammar.

ORAL SESSION C — ROOM 330 — 2:15 P.M.

## **The Prison of Culturally Mandated Female Roles: Two Fictional Girls Using Education to Break Free**

Susan Dodge-Doak  
Ramona Caponegro, faculty mentor

Culturally mandated female roles have often defined the futures of both women and girls. Kashmira Sheth's *Keeping Corner* and Jacqueline Kelly's *The Evolution of Calpurnia Tate* focus on two cultural subsets that support gender inequality, one in India and one in the United States, as experienced by two 12-year-old females born into preordained roles. They experience rigid restrictions, traditionally used as weapons against females, which allow these girls to be categorized socially, academically, and vocationally – an ongoing reality for approximately 63 million females around the world. As these children's books suggest, education alone may be the key to unlocking this cultural prison.

ORAL SESSION A — ROOM 304 — 9:45 A.M.

## **Harambe, Gorilla Down: Cincinnati Zoo Fights to Protect Reputation**

Nina Drumsta, Brandon Lazovic, Jordan Ross, Carlita Jones  
and Colleen Murphy  
Regina Luttrell, faculty mentor

This case study was conducted to examine the impact of the shooting and killing of Harambe, a 17-year-old gorilla that lived in the gorilla enclosure in the Cincinnati Zoo. Immediately following Harambe's death, the Cincinnati Zoo was flooded with news reporters, were black marked in the media, and became the target of widespread popular outrage, turning the gorilla shooting into a large scale crisis. By applying Public Relations methodologies of contingency theory, situational crisis communication theory, and the agenda setting theory, this study scrutinizes the Cincinnati Zoo's crisis management plan, and appraises the degree of success it achieved in pursuing that plan.

ORAL SESSION C — ROOM 320 — 2:30 P.M.

## **The Natural World in Gertrud Kolmar's *A Jewish Mother from Berlin***

Krystin Frane

Elisabeth Däumer and Carla Damiano, faculty mentors

In *A Jewish Mother from Berlin*, Gertrude Kolmar uses vivid imagery to describe the natural surroundings of her main protagonist, the Jewish widowed mother, Martha. In the novel, nature, including animals is used as allegorical representation of Jewish culture (race and religion) while Christianity is represented through technology and urbanization. This binary reveals the cultural tensions as the rise of Nazi propaganda in the 1920s increasingly marginalizes and endangers the lives of German Jews.

ORAL SESSION D — ROOM 350 — 3 P.M.

## **Dante's *Inferno* in Liana Millu's *Smoke over Birkenau***

Arica Frisbey

Elisabeth Däumer and Carla Damiano, faculty mentors

When it comes to Holocaust literature, works written by survivors are usually autobiographical and read as such. However, Liana Millu's *Smoke over Birkenau* has moments when autobiographical truth collides with the fiction of another story of surviving the worst that life, and death, can offer up: Dante's *Inferno*. Millu's many allusions to Dante compel an examination of the invocations and inversions of Dante's hellish circles in her portrayal of the abyss of Auschwitz.

ORAL SESSION D — ROOM 350 — 3 P.M.

## ***Raisel's Riddle: Adapting Cinderella to Educate About the Jewish Culture***

Kristine Gatchel

Jessica De Young Kander, faculty mentor

One purpose of an adaptation is to teach about a culture. By examining Perrault's version of *Cinderella*, "*Cendrillon; ou, La petite pantfoufle de verre*," with its Jewish adaptation, *Raisel's Riddle*, I intend to determine what specific elements of the story were changed to determine if the changes were made to teach about the Jewish culture and if such changes add or detract to a reading done by both insiders and outsiders of the culture.

ORAL SESSION B — ROOM 204 — 11:15 A.M.

## **In Medias**

Nick Hart

Christine Hume, faculty mentor

My sound documentary, "*In Medias*," questions how and where we receive cultural messages about gender, who sends these messages, and what these messages are. By way of answering these questions, my work examines woman's place in media and in politics, as the line between these two is becoming increasingly unclear. This work is loosely modeled on Louise Duprés "*Four Sketches for a Morphology*": the a-morph, the ana-morph, the meta-morph, and the poly-morph. Also worth asking is where are we going? As Duprés says, "A lot of dreaming goes into transforming a culture."

ORAL SESSION D — AUDITORIUM — 3:15 P.M.

## **Silence as Means of Survival in Fascist Italy: Elsa Morante's *History: A Novel***

Ashley Horn

Elisabeth Däumer and Carla Damiano, faculty mentors

*History: A Novel (La Storia)* follows the struggles of a half-Jewish, working-class widow in Fascist Italy. As the regime and its ever-tightening circle of racial laws make life more unbearable, Ida Mancuso hides in plain sight as she keeps her identity secret. Her silence exacerbates her fears of discovery as she inwardly suffers along with the true victims. Morante's controversial novel underscores the victimhood of ordinary citizens in the ever-changing reality of Italy's totalitarian regime.

ORAL SESSION D — ROOM 350 — 3 P.M.

## **Sensory Processing Disorder in Adults: The Importance of Specialized Diagnostics and Treatment**

Anna Machasic

Bernard Miller, faculty mentor

A normally functioning brain is able to filter out auditory, visual, olfactory and tactile input that isn't serving the individual, but the brain of a person with Sensory Processing Disorder (SPD) isn't capable of doing so efficiently. These individuals can become overwhelmed easily and often struggle under the pressure of even mildly stimulating environments. Though some occupational therapists are trained to treat SPD in children, they most often are not specialized in treating the disorder in adults. However, studies suggest SPD is a lifelong condition. Therefore, it stands to reason, occupational therapists should be trained in sensory integration therapy models specific to adults. This presentation makes that argument.

ORAL SESSION C — STUDENT ART GALLERY — 1:45 P.M.

## **How to Listen With Your Ears: An Exploration of Sound Poetry**

Chloe McCrystal

Christine Hume, faculty mentor

Weird and more than a bit obscure, sound poetry is a field of poetry in which the traditional medium of words on a page is discarded in favor of sound waves, creating a completely distinct poetic experience. Language, voice, and sound versus silence are all treated as possibilities, but not obligations. Three poems, each born of a radically different sound poetry technique, will be presented in order to introduce the listener to a sense of the diversity of this odd and compelling form.

ORAL SESSION C — AUDITORIUM — 2:30 P.M.

**“It is No Bedtime Story”: The Roots of J. R. R. Tolkien’s  
*Legendarium* in Children’s Literature**

Dominic Meo

Ramona Caponegro, faculty mentor

For dees, the writings of J. R. R. Tolkien have served as a foundation for modern fantasy and fiction, setting the standard for world-building mythology across the globe. Though undisputed in their influence, *The Hobbit* and *The Lord of the Rings* have fallen away from center stage in much of academia today, and are instead relegated to background bookshelves with an air of nostalgia. This presentation seeks to explore an area of Tolkien scholarship often ignored—or taken for granted—Middle-Earth’s roots in Children’s Literature. Without the adventure of Bilbo Baggins being read by children around the world, the great fantasy-epic of *The Lord of the Rings* may have never been drafted, leaving fiction in entirely different and diminished circumstances.

ORAL SESSION B — ROOM 204 — 10:45 A.M.

**Gendered Memory in Liana Millu’s *Smoke Over Birkenau* and Primo  
Levi’s *Surviving Auschwitz***

Andrea Nicholson

Elizabeth Däumer and Carla Damiano, faculty mentors

By comparing the Holocaust narratives of Millu and Levi through the lens of what Pascale Rachel Bos terms “gendered memory,” this presentation examines the structure of men and women’s values, social relationships, and coping mechanisms in order to shed light on what may have helped some of these men and women survive in the extreme circumstances of concentration camps.

ORAL SESSION D — ROOM 350 — 3 P.M.

**1940s Dating Culture and Panopticism in *Seventeenth Summer***

Josiah Pankiewicz

Amanda Allen, faculty mentor

This presentation will examine how social structures surrounding dating in the 1940s functioned to uphold the patriarchal status quo within Maureen Daly’s 1942 novel, *Seventeenth Summer*. Specifically, I use Michel Foucault’s theory of the panopticon to investigate how boys’ monitoring of girls within the text ensures the girls’ romantic and social complacency. Delving into the narrator’s navigation of this panoptic system, this presentation will discuss both the physical and social implications of “watching,” as well as investigate the ways in which the narrator simultaneously subverts and succumbs to the overall social culture that she narrates.

ORAL SESSION B — ROOM 330 — 11:30 A.M.



## **Critical Sound Engagement**

Candace Pruitt

Christine Hume, faculty mentor

This presentation offers an analysis of two sound poems addressing racism in America through both public and private language and experiences. “Critical Karaoke: ‘Brenda’s Got a Baby’” speaks back to Tupac Shakur’s song circa 1991. This piece weaves together documentary sources that address the real situation that the song addresses and my personal experience hearing it then and now. “Whitemare” juxtaposes audio recordings of Martin Luther King, Jr. and a contemporary Ziana Oliphant—two different contexts and eras—so that we hear a historic context within the present moment. Set side-by-side, the voices draw off one another the complexities of surface emotion as they are brought into dialogue with one another.

ORAL SESSION D — AUDITORIUM — 3 P.M.

## **Why The “Simplest” Writing System Isn’t So Simple After All**

Eli Rodriguez

Beverley Goodman, faculty mentor

This presentation deals with phonology and how it can help language learners to further comprehend the variations between input and output. It will focus on Hangeul, the Korean writing system, and examines some of the differences between written words and pronunciation, specifically the Korean double consonant neutralization in the coda and what it can further reveal about the speaker and the Korean writing system.

ORAL SESSION C — ROOM 350 — 1:30 P.M.

## ***Gilmore Girls*: Road to the Revival**

Courtney Schultz, Hope Salyer, Nicole Raymond, Josie Bobeck  
and Leena Johnson

Regina Luttrell, faculty mentor

Leading up to the release of a new album, film, or TV show, there is traditionally a campaign of sorts. Many networks fail to reach their intended audience due to little or no research on their target demographic. Netflix announced a *Gilmore Girls* revival series on January 29, 2016. It catered events specifically to *Gilmore Girls* fanatics who were dependent on the new series. Our team researched past revival campaigns to craft a comparative analysis to Netflix’s *Gilmore Girls* campaign. We analyzed countless social media platforms, media outlets, and press. The product of our research concluded the *Gilmore Girls: A Year in the Life* campaign to be the most successful reboot thus far.

ORAL SESSION C — ROOM 320 — 2:15 P.M.

### **Ferric: A Speculative Novella**

Brianna Sohl

Matthew Kirkpatrick, faculty mentor

Speculative dystopian fiction, championed by writers such as Margaret Atwood and Octavia Butler, creates uneasiness in the potential manifestation of authoritarian, apocalyptic states. With advancements in bioengineering, coupled with increasing political contempt and divisiveness, the novella *Ferric* develops through these possibilities of scientifically assisted tyranny. It explores CRISPR, advanced and recently discovered DNA-editing technology, and the accompanying ethical queries that are subject to political agendas. This presentation examines this novella in light of these issues of systemic corruption, eugenics, and future advancements of CRISPR technology and its consequences.

ORAL SESSION B — ROOM 330 — 11:15 A.M.

### **Standard English Usage Variation in the EMU Student Body and its Implications**

Amelia Stecker

Eric Acton, faculty mentor

Though the EMU Honors College strives to maintain an inclusive and academically driven body of students, some prospective Honors students report that they perceive the Honors College as “elitist” or “unapproachable.” Language is a crucial factor in people’s identities and sense of belonging. This research aims to determine whether students’ adherence to Standard English (SE) is a factor in their perception of and decision to apply to The Honors College. Interviews were conducted with members and prospective members to evaluate their adherence to SE, to gauge their perceptions of the Honors College and examine the relationship between these two measures.

ORAL SESSION A — ROOM 330 — 9:15 A.M.

### **Critical Tectonics: Finding Fault in Jameson’s *Archaeologies* and “Progress”**

Nicholas van der Waard

Bernard Miller, faculty mentor

Marxist literary critic Fredrick Jameson asserts science fiction (SF) as containing political allegory usable by Marxist critics when they defamiliarize the present world. However, he also insists aesthetic overlap between fantasy and SF enables SF to contain allegory and fantasy to lack it, or vice versa, despite arguing at the same time that political allegory forms the crux of SF’s hidden function to allegorically defamiliarize our present; without allegory this would not be possible. He champions modern historicism, but this narrows his views: All critics borrow ideas from others, yet lack enough information to get at the truth; ergo, they must lie, and Jameson is no different when he boasts of SF’s hidden function.

ORAL SESSION B — ROOM 204 — 11 A.M.

## **The Reclamation of Slurs by Marginalized Groups**

Marri Visscher and Mackensi Crenshaw

Daniel Seely, faculty mentor

Slurs once used to degrade marginalized groups have in recent decades been reclaimed by these communities and utilized as tools of empowerment and unity. By looking at the historical usage of “queer” and the “n-word” in American culture, as well as applying certain linguistic properties, we can better understand the shift of these terms from hate speech to operational and familial terms respectively. These words are now being used within these groups as a source of identity and pride. However, in the course of this social change, many members within these marginalized groups call to question whether these slurs, given their history and original connotation, can ever be fully reclaimed.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Sound Poetry: Identity and the Loss of Agency**

Abi Vollick

Christine Hume, faculty mentor

Agency is having control over the self. This presentation uses creative work to explore the loss of that control in the struggle to maintain and present identity. This exploration consists of two recorded sound poems: “I lack” speaks to a lack of vocal agency in the face of anxiety by using language restrictions rooted in the identity of my name, while “No Respect” analyzes the stripping of bodily agency and the dissociation of identity from body in the political war against women’s rights through deterioration and deconstruction of language.

ORAL SESSION D — AUDITORIUM — 3:30 P.M.

## **Getting to Know Ross Gay: Poetry, Process, and Pedagogy**

Amanda Weise

Elisabeth Däumer, faculty mentor

When an Eco-poetry project required me to choose a poet and analyze his work, I discovered Ross Gay, a contemporary African-American poet. His *Catalogue of Unabashed Gratitude* critiques social issues through the topic of gardening; I was hooked. I found his poem “Spoon” entirely perplexing and made it the focus of my project. In order to research the contextual factors of the poem, I contacted Gay and miraculously started a correspondence with him. Throughout the process, I fell in love with the poems—and poet—and discovered what it means to be attached to schoolwork. As an education major, this experience has pedagogical implications and allowed me to see the value of creating projects that fully involve students and connect them with others.

ORAL SESSION C — AUDITORIUM — 2 P.M.

## **Bridging the Great Divide: Bridge Programs as a Means to Improve Student Performance and Success**

Arrie'l Wilkerson, Reginald Flowers and Gabrielle Rudolphment  
Natasha Wickenheiser and Ann Blakeslee, faculty mentors

The transition into college can be challenging for all first-year students, especially students who have previously struggled academically, socially, or personally. To promote student success, academic bridge programs provide mentor-based partnerships and support resources to push students to reach their full potential in college. Through literature review and reflection on our own bridge experiences at EMU, this study explores how different types of bridge programs and their provided resources affect student performance and success.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **DEPARTMENT OF GEOGRAPHY & GEOLOGY**

### **A Study of Pre-Service Teachers' Opinions on Carbon Dioxide Emissions and Human Activity**

Susan Ervin  
Katherine Ryker, faculty mentor

Scientific studies show that activities such as the burning of fossil fuels, deforestation and industrial processes have increased the amount of CO<sub>2</sub> in our atmosphere, leading to an increase in global temperatures. How people react to this information is informed by their understanding of the relationship between CO<sub>2</sub> emissions and their own activity. In Michigan, students begin learning about weather and climate starting with simple observations of local weather conditions in Kindergarten. This study explores what human activities pre-service elementary teachers believe impact CO<sub>2</sub> emissions, to what extent they align with the scientific community, and implications for their future students.

ORAL SESSION D — ROOM 204 — 3:15 P.M.

### **Petrophysical Analysis of Crystal Exploration Company Kern 1-22 Well, Lapeer County, Michigan**

Glenn Loriaux  
Michael Bradley, faculty mentor

A well is put into production based upon the economics and technology of when the well was drilled. With advances in engineering, technology and extraction methods, it is now possible to produce hydrocarbons from previously inaccessible horizons so redeveloping plugged and abandoned wells offers an economically viable way to produce hydrocarbons. This study uses well logs from the Kern 1-22 well to determine the production potential of the Berea Sandstone, Detroit River Group, Sunbury and Antrim Shales. The petrophysical analysis shows that hydrocarbons are present in all units with saturation levels as high as 70% within the Berea and Detroit River Group.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **On Evolution and Assumptions: Pre-Service Teachers' Knowledge of Bird and Reptile Morphology and Evolution**

Abigail Melnik

Katherine Ryker, faculty mentor

The purpose of this research was to determine what misconceptions pre-service teachers have about the evolution of birds and their relationship to reptiles, specifically dinosaurs. Pre-service elementary teachers completed a short questionnaire with questions about Archaeopteryx, a bird-like dinosaur considered to be a transitional species between dinosaurs and birds. The majority of those pre-service teachers I surveyed had very little knowledge of the evolution of birds and had several misconceptions. My findings showed incomplete or lacking knowledge in bird and reptile morphology and evolution. This is important, as phylogenetic relationships are introduced in K-12 classrooms.

ORAL SESSION D — ROOM 204 — 3 P.M.

## **Guatemalan Power Dynamics for the Native Population**

Matthew Neuvirth

Zachary Moore, faculty mentor

This study compares the quality of life of Mesoamerican indigenous populations in Guatemala in regards to their relationship to land, health, and government, and ranging from Mayan rule, to Spanish rule, and pre- and post-civil war Guatemala. In understanding the differences of the social, political, and economic aspects of life at these different times, insight was gained into what historical and current barriers affected this group, and what challenges they face as a vulnerable population in Central America. This is critical to understand what policy changes need to be made so that Mesoamerican indigenous populations can live without threat to their human rights and cultural security.

ORAL SESSION D — ROOM 304 — 4 P.M.

## **Mapping the Effects of Climate Change on the Great Lakes using Geographic Information System**

Grace Nicholas

Xining Yang, faculty mentor

The objective of this research is to demonstrate how our lakes' water levels are decreasing, explain what climate change has to do with it, and furthermore explain the consequences of the decrease in water levels. With GIS technology I was able to bring together physical data and recorded facts from the scientific community that can visualize how the Great Lakes are being destroyed by climate change over the last 10 years. More specifically, I would like to present which lakes and their zones are vulnerable and what we should be doing to help slow the damage. The results show that while all of the Great Lakes are suffering, Lake Erie is especially damaged because of climate change.

ORAL SESSION C — ROOM 304 — 2 P.M.

## **Analysis of Volcanic Ash**

Conor O'Dowd

Christine Clark and Katherine Ryker, faculty mentors

Volcanic ash begins to weather upon deposition, resulting in the in situ development of clay minerals in the glass pore spaces. Almquist (2011) established a classification scheme of weathering based on ash deposits in New Zealand using an SEM. We are examining volcanic ash collected from various regions to broaden the classification scheme based on morphology and clay mineral composition. SEM and FTIR analysis of the material were used to get a better understanding of the morphology and geochemistry of the weathering products. By broadening the weathering classification scheme, we can establish a useful tool for researchers to analyze weathering differences between sites and events.

ORAL SESSION A — ROOM 301 — 9:15 A.M.

## **The Influence of How We Think About Elementary Classrooms, Science, and Math on Learning**

Stephanie Porcar

Katherine Ryker, faculty mentor

This study explores what university students' believe the ideal elementary science learning environment is and how their beliefs about science affect their representation of this ideal learning environment. Participants created a labeled drawing of their ideal elementary science classrooms and completed a short survey assessing their attitudes and beliefs about math and science. Comparisons will be drawn between education majors and other majors, highlighting differences in perceptions about how individuals learn, and the potential impact on K-5 students.

ORAL SESSION D — ROOM 204 — 3:30 P.M.

## **X-Site Over-Occupancy in Povondraite**

Matthew Schiffert

Christine Clark, faculty mentor

Povondraite is a species of tourmaline with a formula of  $\text{NaFe}^{3+}_3(\text{Fe}^{3+}_4\text{Mg}_2)\text{Si}_6\text{O}_{18}(\text{BO}_3)_3(\text{OH})_3\text{O}$ . All tourmalines have only one atomic site in their crystal structure big enough for larger cations; the X-site. However, a number of analyses of povondraite have reported more of these cations than theoretically possible. We are collecting data using a variety of analytical techniques (single crystal x-ray diffraction (S-XRD), transmission electron microscopy (TEM), and electron microprobe analysis (EMPA)) on several povondraites. This data is being collected at several different labs to allow for data-checking. Our goal is to fully characterize this reported anomaly, and either verify or refute it.

ORAL SESSION B — ROOM 352 — 11 A.M.

## **Anthropogenic Emissions, Climate Change, and Public Opinion**

Leah Underwood

Katherine Ryker, faculty mentor

While there is solid consensus in the scientific community that our climate is changing and humans play a distinct role in that, the court of public opinion and news media are far more split. The goal of this study is to understand the American public's opinions on global climate change and how they are influenced, often by misconceptions. Data was gathered through an online survey. The results were then analyzed for trends along demographic factors including age and level of education. These opinions are compared against data from scientifically-grounded resources that paint a picture of the past, current and predicted future state of the climate.

ORAL SESSION A — ROOM 301 — 9 A.M.

## **Constructing an Educational Website Focusing on Fossil Macroalgae**

Donovan Verge

Steven LoDuca, faculty mentor

Fossils capture the interest of a sizable segment of the general public and, as a result, a number of educational websites have been developed that focus on particular groups of prehistoric life, such as dinosaurs and trilobites. An important group of life in the seas for the past 600 million years that has not received such an online treatment is macroalgae ("seaweeds"), in part because their fossil record was largely unstudied until recently. Here, an overview is presented of a website constructed to fill this educational gap. This website, designed for those with little to no knowledge of paleontology, will eventually be linked to the online Virtual Museum hosted by UC Berkeley.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Collection and Analysis of Morphometric Data for the Fossil Macroalga *Marpolia***

Sarah Williamson

Steven LoDuca, faculty mentor

*Marpolia* is a filamentous fossil macroalga ("seaweed") that was first described from the Cambrian-age (520 million year old) Burgess Shale of Canada in the early 1900s. Specimens have since been collected from other Cambrian fossil deposits, including several in China, and some of this material was considered to represent new species of *Marpolia*. To investigate the multiple-species hypothesis, morphometric data (measurements) were obtained from specimens of *Marpolia* from all known localities using digital images together with the open-source program ImageJ. The dataset was analyzed to investigate whether the different species of *Marpolia* can be distinguished on the basis of filament width.

ORAL SESSION C — ROOM 304 — 1:45 P.M.

## DEPARTMENT OF HISTORY & PHILOSOPHY

### **Nationalism and the Bosnian Genocide: An Oral History**

Edin Bukva

Matthew Penix, faculty mentor

The most brutal war crimes to occur on European soil since World War II happened only 25 years ago in Bosnia, where the growing tide of nationalism ripped an entire nation apart. Bosnia changed hands many times. First controlled by small monarchs, then the Ottoman Turks for about 500 years, and then under socialist Yugoslavia, to finally being an independent state in the 1990s. The rise of nationalism in Serbia brought war, and ultimately genocide. Muhamed and Hajrija Bukva lived in Tito's Yugoslavia, and survived the war. This oral history provides firsthand evidence of the national division that destroyed Bosnia.

ORAL SESSION D — STUDENT ART GALLERY — 3:15 P.M.

### **Khadar's Speech for Reform to the Court of Harun ar-Rashid**

Michael Criscenti

Mark Whitters, faculty mentor

In this presentation I will take the role of "Khadar," a Muslim merchant in the Abbasid dynasty during the reign of Harun ar-Rashid (ca. 800 CE), perhaps the greatest time of Islamic civilization. I will argue on behalf of trade reform and expansion and education for the populace, including non-Muslims—as fits Harun's "enlightened" Caliphate reign. I will argue to reform laws concerning non-Muslim peoples living in the Abbasid dynasty, so as to treat them more equally, and that the bad treatment comes from lack of understanding which comes from lack of education. This presentation will be performed in the Reacting to the Past mode of learning, and is based on "real-world" research and ideas.

ORAL SESSION D — STUDENT ART GALLERY — 3:30 P.M.

### **Matilda of Tuscany: A Woman of Great Power**

Lindsay Dascola

Ron Delph, faculty mentor

During the Middle Ages, very few female rulers gained respect, power, and leading roles in warfare, but Matilda of Tuscany, 1046-1115, was one of them. Why was Countess Matilda able to exercise such power in a patriarchal society? This paper will argue that this noblewoman came to wield a great deal of power due to her relationship with Pope Gregory VII, her achievements on the field of battle, and because of the concern that she showed for her people.

ORAL SESSION A — ROOM 304 — 9 A.M.



## **Our Self-Understanding Revealed through Contemporary Architecture**

Dylan Delikta

Laura McMahon, faculty mentor

For Hegel, architectural structures reveal cultural understandings about how we understand the self and the world around us at any given point in history. What I seek to do in this paper is to identify what sort of cultural understanding is revealed through contemporary architecture such as the skyscraper, the symbol of modern capitalism. By bringing into attention the ways architecture make space for cultural understandings, we better understand the impact architecture has in revealing the self and the world, and thus grants us an opportunity to reveal the world in different ways.

ORAL SESSION C — ROOM 204 — 2:15 P.M.

## **How Food Cooperatives are Helping Resolve Global Food Issues through Advocacy and Education**

Leaha Dotson

Jill Dieterle, faculty mentor

Today's global food system treats food as a commodity, which leads to food system issues. Food cooperatives use unique approaches to meet community food needs and facilitate advocacy and education opportunities. This presentation focuses on accessibility needs and food ethics. Accessibility refers to physical, social, and economic access individuals have to nutritious food sources. Food ethics is an ethical analysis of human conduct in the production, distribution, preparation and consumption of food. This presentation provides a comparison of European and U.S. cooperatives emphasizing the benefit of information exchanges to facilitate adaptations to collectively resolve global food issues.

ORAL SESSION C — ROOM 352 — 1:45 P.M.

## **The Kantian Solution to Hegel's Primitive Problems of Mutual Recognition**

Hailey Hawes

Laura McMahon, faculty mentor

In this paper, I attempt to solve the primitive issues of mutual recognition present in Hegel's writings on when two self-conscious beings cross paths. I offer, as a solution, the balance of Kant's duties of practical love and those of the respect due to other human beings. From the comparison of Hegel and Kant's writings, I endeavor to demonstrate the importance of practical love and respect in human interaction.

ORAL SESSION C — ROOM 301 — 1:30 P.M.

## **Subjectivity and Mutuality: Feminist Theology in Film**

Aine Keefer

Margaret Crouch, faculty mentor

One of the central concepts in feminist film criticism is the “male gaze”. Laura Mulvey, who originally formulated this concept, constructs this gaze as necessarily objectifying. I maintain that gaze can also be “subjectifying” through the process of relations between people who hold each other in equal regard rather than asserting power one over the other. Seeing and being seen holds power to restore agency through reciprocal relation. I explore this in the context of film as a vehicle of illustration and as an interaction between artist and audience, and assert that gaze has equal power to reduce or restore agency.

ORAL SESSION A — ROOM 304 — 10 A.M.

## **Human Nature and Justice: The Implications of Praxis as Nature upon Disability Studies**

Aine Keefer

Peter Higgins, faculty mentor

Alison Jaggar posits that conceptions of human nature drive theories of justice. Citing issues in social contract theory, Marxist theory, and radical feminist conceptions of human nature and resulting theories of justice, she presents a socialist feminist solution that seeks to combine the best elements of the previous theories and correct some of the issues. I argue that her conception of human nature is incomplete when viewed from a disability studies perspective and the resulting theory of justice is therefore insufficient, and assert that it is necessary to build a political philosophy that is not grounded in a concept of human nature if the goal is to achieve justice.

ORAL SESSION C — STUDENT ART GALLERY — 1:30 P.M.

## **The Kingdom of Jerusalem**

Cecilia Lawrence

Ron Delph, faculty mentor

The establishment of the Latin Kingdom of Jerusalem in the wake of the First Crusade was a remarkable achievement on the part of medieval European Christians who managed to create a thriving and robust culture in the midst of a hostile environment. In this paper I investigate the reasons for why the Kingdom of Jerusalem flourished in such harsh and warlike surroundings and why it finally fell to the forces of Islam in 1187.

ORAL SESSION B — KIVA ROOM — 11:15 A.M.

## **Eleanor of Aquitaine: A Female Medieval Powerhouse**

Julie Mann

Ron Delph, faculty mentor

From her birth in 1122 to her death in 1204 C.E., Eleanor of Aquitaine used her privileged position by birth as heir to the duchy of Aquitaine to make two advantageous marriages and raise two future kings of England, wielding political and social control throughout her long life. Her skill in political strategy ultimately allowed her to outlast both her husbands and her most powerful son, wielding the most influence in the last few years of her life. In the growing field of women's history and medieval history overall, her achievement is monumental and deserves as much recognition as her male counterparts receive.

ORAL SESSION A — ROOM 304 — 9:15 A.M.

## **A History of U.S. Transgendered Military Members**

Erin McGuire

John McCurdy, faculty mentor

While those who identify as lesbian, gay, bisexual, and/or transgender are all included under the acronym "LGBT," there often exists a difference in how these various identities are treated. The U.S. military provides an excellent example of this often overlooked disparity. Until 2016, transgendered individuals were exclusively prohibited from serving. This presentation examines how mechanisms such as "Don't Ask, Don't Tell," military regulations, and Veteran's Administration directives were employed by the U.S. military to accomplish such exclusion. How these regulations and directives have evolved over time to allow for transgendered service is also explored.

ORAL SESSION D — ROOM 352 — 4 P.M.

## **Strikes and Popular Unrest in the Belgian Congo during World War II**

Deborah Munganga

Joseph Engwenyu, faculty mentor

This research seeks to examine the reasons of labor strikes in the Belgian Congo by analyzing and exploring the ways in which wartime production increases greatly impacted sharp declines in workers' wages and increases in price index. Along with this, analyze how cash crops played a crucial role in mobilizing the rural people to participate in the general strikes. By doing this, it will allow for growth in understanding the strikes and explore aspects of why this movement did not intensify to become a social revolution.

ORAL SESSION B — ROOM 301 — 11:15 A.M.

**Homonormativity: The New “Hetero” in Cinema**

Katelyn Pyles

Margaret Crouch, faculty mentor

The development and persistence of heteronormativity within media has been a topic of great interest for feminists studying the “male gaze” in cinema and other modes of narrative. The focus of this paper is the possibility of a homosexual narrative, given that film is a heteronormative industry that exists in a heteronormative society. I argue that an idea of homonormativity is emerging in film, but that most popular films depicting homosexuality do not transcend the heteronormative narrative. I discuss two films to highlight this point: *The Kids Are All Right* and *Blue Is the Warmest Color*.

ORAL SESSION D — ROOM 352 — 3:30 P.M.**Daoism and the Primordial Question**

Katelyn Pyles

Brian Bruya, faculty mentor

Daoism outlines a relationship between man and the world which resembles notions in Western existential thought, specifically Albert Camus’ discussion of absurdity and the “primordial question”. In this paper I explore these parallels and offer that, by viewing the questioning existentialist as the Daoist sage searching for Truth, we can come to an answer regarding self-immolation which still preserves existence but removes Camus’ integral focus on the very thing he claims creates absurdity in the first place. I argue that, by both Camus’ and Daoist interpretations, it only deepens turmoil to cast greater importance on self-created purpose.

ORAL SESSION C — ROOM 301 — 1:45 P.M.**In Defense of Helen Longino’s Theory of Objectivity**

Michaela Repaska

John Koolage, faculty mentor

In this paper I defend Helen Longino’s theory of objectivity as presented in *Science as Social Knowledge*. A strength of science is its objectivity. However, given the social context in which science is practiced, it is difficult to remove the prevalent, background assumptions. Longino holds that science becomes more objective when scientists, and other stakeholders, “check” each other’s work, allowing for background assumptions to be identified and questioned. Longino does not provide a clear analysis of stakeholders, nor how broad the democracy of stakeholders doing the “checking” should be. This paper will focus on these questions as well as the implications of this view for science today.

ORAL SESSION C — ROOM 304 — 1:30 P.M.

## **The Nature of Turkish Literati's Response to Turkish Language Reform**

Abigail Vermeulen

John Knight, faculty mentor

Following the creation of the Turkish State in 1923, the country's founder, Mustafa Kemal Atatürk, initiated State-sponsored Kemalist reforms created with the intention of westernizing Turkey. One of these reforms was State-sponsored language reform which purged the Turkish language of Ottoman Arabo-Persian grammatical structures. The literati of Turkey took various approaches to this language reform, but largely did not protest. This paper will analyze the causes and effects of the literati's acceptance of this radical reform that fundamentally altered the country and its literature. It will also examine how the literati's reaction to reform manifested in post-reform literature.

ORAL SESSION D — STUDENT ART GALLERY — 3 P.M.

## **The Canonization and Cult Origins of Saint Louis IX**

Ashley Vought

Ron Delph, faculty mentor

In 1297 Pope Boniface VIII canonized King Louis IX, who had ruled over France from 1226 to 1270. Following his canonization, the people of Paris became devoted to his cult. This paper will explore why Louis IX was sainted by Pope Boniface, and examine the popularity that quickly came to surround his cult in late medieval Paris. I will argue that the pope canonized Louis IX in an attempt to smooth over a dispute with his successor, King Philip the Fair. I will also show that the popularity of his cult arose from his acquisition of holy relics and piousness as King of France.

ORAL SESSION B — KIVA ROOM — 11:30 A.M.

## **Musicology during the Third Reich**

Katelin Webster

Jesse Kauffman, faculty mentor

The long held belief that Germany had contributed the most to Western music was used during the Third Reich to help create a unified German identity. In order to achieve this, the Nazi Party needed to differentiate between superior German music and degenerate foreign music. German musicologists saw this as an opportunity to validate their young discipline and gain control of official Nazi music policies. Their research during the Third Reich focused on race, defining Germanness in music, and folk music. Ultimately, German musicologists' folk music research was successful but they failed to dictate music policies in Germany due to the abstract nature of music and flawed race research.

ORAL SESSION B — STUDENT ART GALLERY — 11:15 A.M.

## **The Chinese Room Experiment Explained**

Lauren Williams

John Koolage, faculty mentor

The Chinese room problem is a thought experiment that has plagued the field of Artificial Intelligence for years. Here I explain the problem before looking at what Michael Laufer, Lawrence Shapiro, and Andy Clark have said about the problem. I analyze what each person says before concluding that all of them rely on the concept of understanding, though all understand it differently. Thus, I argue that no progress can be made until the concept of understanding is agreed upon.

ORAL SESSION D — ROOM 330 — 3:15 P.M.

## **INTERDISCIPLINARY ENVIRONMENTAL SCIENCE & SOCIETY PROGRAM**

### **Pinpointing and Mapping Areas for Wetland Restoration in the Western Lake Erie Basin: A GIS Approach**

Jennifer Harper

Xining Yang, faculty mentor

Harmful cyanobacterial algal blooms produce toxins that have substantial impacts on ecological processes of wetlands while carrying socioeconomic and health costs. Warming climate and rising nutrient flow to waterways increase the need for wetland restoration. The objective of this project is to visualize areas where wetland restoration can provide optimal impact on decreasing nutrient flow into the western Lake Erie basin. The use of GIS tools to spatially analyze the relationship between major rivers that flow into the study area and their annual nutrient load reveal several areas in the Maumee River basin that would be ideal locations for environmental buffers and wetland restoration.

ORAL SESSION B — ROOM 352 — 10:45 A.M.

### **Mutualism between Prairie Grasses and Soil Fungi Not Limited by High Phosphorus**

Robert Keast

Emily Grman, faculty mentor

Nutrient pollution, like phosphorus from fertilizer, is one of several problems complicating prairie restoration on former croplands. I examined how phosphorus affects the growth of prairie grasses and their mutualisms with arbuscular mycorrhizal fungi (AMF). This was done through a greenhouse experiment in which a variety of prairie grasses were grown in pots either with or without AMF, and at different phosphorus concentrations. I hypothesized that AMF would be detrimental under high phosphorus concentrations. I found that AMF was consistently beneficial regardless of phosphorus concentration. This suggests that phosphorus may not inhibit prairie restoration as much as previously thought.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Role of Local Adaptation in the Unique Reproduction Mode of Unisexual Ambystoma Salamanders**

Kelsey Mitchell

Katherine Greenwald, faculty mentor

Unisexual (all female) *Ambystoma* salamanders reproduce via kleptogenesis, in which insemination by a male of another species is necessary to trigger egg development. The zygote can develop asexually or by adding the male's genome into the fertilized ovum. We used breeding trials and genetic data to determine if unisexual salamanders prefer to include genomes of males from the same breeding pond or more distant ponds. We hypothesized that they would prefer males from more distant ponds as this would increase genetic diversity of the offspring. Preliminary data suggest that our hypothesis was not supported: unisexual females showed a preference towards male genomes from the same pond.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Effects of Submergence Depths on Swimming Capacity of Sea Lampreys**

Nayeli Sanchez

Ulrich Reinhardt, faculty mentor

Invasive sea lamprey (*Petromyzon marinus*) is a fish parasite that has damaged the Great Lakes ecosystem. Since sea lamprey migrate from lakes upstream to spawn, in-stream barriers that prevent passage can help reduce population size. Assessment of swimming kinematics is necessary to understand how lamprey navigate across barriers at various submergence depths. We recorded attempts of sea lampreys to cross wetted ramps varying in water depth and used video analysis to examine whether these differences would allow sea lamprey successful passage. This research may provide insight towards designing a selective barrier that allows native fin-fish upstream passage but denies it to sea lampreys.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **No Evidence that Garlic Mustard Inhibits Native Plant Growth in Prairie Restorations**

Adrienne Wayne

Emily Grman, faculty mentor

Invasive species can suppress native species beyond competing for nutrients and sunlight. Many exude allelopathic chemicals that may influence interactions among native plants. In a greenhouse experiment, I examined whether extract of garlic mustard (*Alliaria petiolata*), a common allelopathic invasive, affects competition between prairie plants in a first-year restoration. We found that instead of inhibiting the prairie species, garlic mustard extract gave most a boost in growth and did not influence the outcome of competition.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## JEWISH STUDIES PROGRAM

### **Intersectionality of Jewish Women in Ruth Kluger's *Still Alive* and Anzia Yeziarska's *Bread Givers***

Matthew Benkarski

Elisabeth Däumer and Carla Damiano, faculty mentors

Within both texts we find two passionate and vehemently independent women who seek to go their own way and diverge from what is expected of them by their more traditional Jewish families. Responding to the societal enforcement of patriarchal gender roles, and doubting the validity of their own traumatic experiences, both women pay a high price for questioning the expectations set for them by others.

ORAL SESSION D — ROOM 350 — 3 P.M.

### **American Stereotypes of Jewish Women: Modern Antisemisogyny and Its Affect on Jewish Culture**

Emily Franchy

Jessica De Young Kander, faculty mentor

In children's literature specific to Judaism and Jewish culture, young readers are exposed to depictions of the Jewish family. More specifically, they are exposed to depictions of Jewish women. Do children find worthy role models within this literature, or are they only given classical stereotypes of Jewish women as wives and mothers and not much else? This paper examines the stereotypes of Jewish women, as seen both inside and outside the community. Also studied will be a sample of ten children's books that fall within the description of Jewish literature and the women they portray.

ORAL SESSION B — ROOM 204 — 11:30 A.M.

### **The Natural World in Gertrud Kolmar's *A Jewish Mother from Berlin***

Krystin Frane

Elisabeth Däumer and Carla Damiano, faculty mentors

In *A Jewish Mother from Berlin*, Gertrude Kolmar uses vivid imagery to describe the natural surroundings of her main protagonist, the Jewish widowed mother, Martha. In the novel, nature, including animals, is used as allegorical representation of Jewish culture (race and religion) while Christianity is represented through technology and urbanization. This binary reveals the cultural tensions as the rise of Nazi propaganda in the 1920s increasingly marginalizes and endangers the lives of German Jews.

ORAL SESSION D — ROOM 350 — 3 P.M.

### **Dante's *Inferno* in Liana Millu's *Smoke over Birkenau***

Arica Frisbey

Elisabeth Däumer and Carla Damiano, faculty mentors

When it comes to Holocaust literature, works written by survivors are usually autobiographical and read as such. However, Liana Millu's *Smoke over Birkenau* has moments when autobiographical truth collides with the fiction of another story of surviving the worst that life, and death, can offer up: Dante's *Inferno*. Millu's many allusions to Dante compel an examination of the invocations and inversions of Dante's hellish circles in her portrayal of the abyss of Auschwitz.

ORAL SESSION D — ROOM 350 — 3 P.M.



## **Silence as Means of Survival in Fascist Italy: Elsa Morante's *History: A Novel***

Ashley Horn

Elisabeth Däumer and Carla Damiano, faculty mentors

*History: A Novel* (La Storia) follows the struggles of a half-Jewish, working-class widow in Fascist Italy. As the regime and its ever-tightening circle of racial laws make life more unbearable, Ida Mancuso hides in plain sight as she keeps her identity secret. Her silence exacerbates her fears of discovery as she inwardly suffers along with the true victims. Morante's controversial novel underscores the victimhood of ordinary citizens in the ever-changing reality of Italy's totalitarian regime.

ORAL SESSION D — ROOM 350 — 3 P.M.

## **Gendered Memory in Liana Millu's *Smoke Over Birkenau* and Primo Levi's *Surviving Auschwitz***

Andrea Nicholson

Elisabeth Däumer and Carla Damiano, faculty mentors

By comparing the Holocaust narratives of Millu and Levi through the lens of what Pascale Rachel Bos terms "gendered memory," this presentation examines the structure of men and women's values, social relationships, and coping mechanisms in order to shed light on what may have helped some of these men and women survive in the extreme circumstances of concentration camps.

ORAL SESSION D — ROOM 350 — 3 P.M.

## **Examining the Schlemiel: Gimpel and More**

Sera Shearer

Marty Shichtman, faculty mentor

This project will examine the Jewish literary archetype of the schlemiel. The schlemiel is a comedic underdog character, an awkward or unlucky person who tends to fail. Oftentimes, though, the schlemiel has some sort of trick up their sleeve, turning the story around at the end in a way that makes one question the previous events. Primarily, the project will discuss the schlemiel as it relates to Isaac Bashevis Singer's short story, "Gimpel the Fool". However, it will also touch briefly on other schlemiel-type characters as they appear in modern pop culture, including in books, films, and stage productions.

ORAL SESSION B — ROOM 204 — 10:30 A.M.

## DEPARTMENT OF MATHEMATICS

### **Applications of the Laplace Transform**

Andre Cocagne

Kenneth Shiskowski, faculty mentor

Many science students who must have background in mathematics take courses up to, and including, differential equations. In this course, one of the topics covered is the Laplace transform. Coming to prominence in the late 20th century after being popularized by a famous electrical engineer, knowledge on how to do the Laplace transform has become a necessity for many fields. While it is discussed and examples are given of how it is used, none of its applications are explored in depth in a class like differential equations. As such, this project seeks to showcase some of the more important uses of the transform while mentioning how it is used in other, not as important cases.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

### **Training Neural Networks to Identify Types of Mosquitos by Their Buzzing Types**

David Fisher

Andrew Ross, faculty mentor

To combat malaria caused by disease-carrying mosquitoes, it is important to have some way of identifying mosquito types since only one mosquito type (the Anopheles) can carry malaria. Training a computer to detect mosquito types by sound is useful in solving this problem. Starting with a code used to identify urban sounds, we adapted it to use a mosquito sounds dataset of 100 sounds of five different types of mosquitoes to identify the mosquitos' types. We audio processing techniques Mel and Cepstrum to create different transforms of the dataset, allowing the program to identify the sounds better. After adapting the existing code, we got an identification rate of 94.67%.

ORAL SESSION A — ROOM 301 — 9:45 A.M.

### **Characteristics Reported on Residency Applications that Predict Successful Family Medicine Residents**

Suzy McTaggart

Khairul Islam, faculty mentor

Despite commentary in Graduate Medical Education that overreliance on test scores is undesirable in residency applicant review, residency programs are left with few other options to objectively distinguish desirable candidates within their applicant pool in a high stakes paradigm. We will perform a statistical review of the residency applications of University of Michigan family medicine residents from 2010-2014 to determine which reported characteristics can predict success in residency. This ability to predict successful residents is critical in maintaining a positive program reputation (institutionally and nationally) which in turn benefits the program and all its graduates.

ORAL SESSION A — ROOM 320 — 9:15 A.M.

## **Characteristics of Autism Spectrum Disorder: An Overview of Facts, Prevalence and Analysis**

Ashli Norwood

Khairul Islam, faculty mentor

Characterized by difficulties in social interaction, communication and repetitive behavior, autism spectrum disorder (ASD) is a collection of complex form of disorders of brain development. Recent study reveals that about 1 in 68 children has been identified with ASD. In this presentation, we explore important characteristics and prevalence of ASD along with models for trends and indices of ASD in the United States. Such study is important for early diagnosis awareness and contributing in improving the outcome of ASD children.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Children's Literature as a Tool to Teach Mathematics**

Kara Weinstien

Stephen Blair, faculty mentor

Common Core State Standards have changed the way that we teach math concepts in elementary schools. These new educational standards promote teaching math for understanding instead of teaching the standard algorithms that have been traditionally taught. Children's literature is an alternative teaching method. The aim of this project is to examine children's literature with the purpose of teaching math concepts. This project models the components of quality children's literature to create an original book that teaches students, grades 3-5, about fractions.

ORAL SESSION D — ROOM 204 — 3:45 P.M.

## **SCHOOL OF MUSIC & DANCE**

### ***Fantasiestücke*, Op. 12 by Robert Schumann**

Megan Angriawan

Garik Pedersen, faculty mentor

Robert Schumann (1810-1856), a German composer in the Romantic era, developed a love of music when he was young and left law school to pursue music as a career. After a permanent injury destroyed his dream to be a performer, he devoted himself to composition. In his compositions, Schumann often imagined himself to have a dual personality: Florestan (his passionate side) and Eusebius (his dreamer side). His *Fantasiestücke*, Op. 12 begins with four movements that alternate these two personalities and then combines them both in the fifth and later movements.

ORAL SESSION B — AUDITORIUM — 11 A.M.

**Dance Composition Solos**

Natalia De Miguel Annoni, Emily Prueter, Hannah Reynolds  
and Amani Eggleston

Apryl Seech Pipe, faculty mentor

The choreography presented was developed in the Elements of Dance Composition class. The solos are the final result of a series of movement explorations and studies. The students followed their curiosity, selecting a meaningful theme and accompanying music that integrated use of dynamics, space and time. Included is *Crustaceans* by Natalia de Miguel Annoni, *Eternal Life* (Evolution) by Amani Eggleston, *Crossing Paths* by Emily Prueter and *Muffled Light* by Hannah Reynolds.

ORAL SESSION B — AUDITORIUM — 11:30 A.M.

**A Study of the Physiological Effects of Researcher-Selected Music versus Subject-Selected music**

Nora Elkanick

Theresa Merrill, faculty mentor

When listening to music, one can determine if they prefer a piece or not within less than a second. Within music therapy, a patient's preferred music is something that is sought after for use in sessions to build rapport as a foundation for therapy. Music, being inherently therapeutic, is often used for relaxation purposes in settings such as hospitals or hospice and previous studies have shown that sedative, or relaxing, music has effects on physiological arousal. This study aims to determine the differences, if any, in physiological effects such as heart rate, blood pressure, and respiration rate of researcher-selected sedative music against subject-selected sedative music.

ORAL SESSION A — AUDITORIUM — 9 A.M.

**Russian Nationalism in the Art and Music of *Pictures at an Exhibition***

Anna Elkins

Joel Schoenhals, faculty mentor

Having recently emerged from perhaps its most turbulent period in modern history, Russia in the 1870s was in turmoil. With this unrest came the crumbling of a cultural "Russian identity." Composer Modest Mussorgsky believed two things about Russian music: Russian music should express the Russian soul, and should be written in a Russian way. These views were mirrored in the visual arts by nationalist painter Viktor Hartmann, a friend of Mussorgsky's. After Hartmann's premature death in 1873, his artwork was exhibited in a public display. In honor of this exhibit, Mussorgsky wrote one of his most famous pieces, *Pictures at an Exhibition*, which remains an iconic work to this day.

ORAL SESSION A — AUDITORIUM — 9:45 A.M.

## **Historical Context of Sonetto 104 Del Petrarca By Franz Liszt**

Emily Katynski

Joel Schoenhals, faculty mentor

Franz Liszt's extensive travels throughout Europe inspired him to compose *Années de Pèlerinage*, a set of three suites for piano. The second suite, based on his travels to Italy, contains the lyrical *Sonetto 104 del Petrarca*, an Italian sonnet by Renaissance poet Francesco Petrarca. This lecture-performance will provide historical context on Liszt and Petrarch and focus on how Liszt transforms the emotions and language of the sonnet into musical elements.

ORAL SESSION A —AUDITORIUM — 9:15 A.M.

## **Suite No. 2 in D minor, BWV 1008, by Johann Sebastian Bach (1675-1750)**

Thomas Loescher

Deborah Pae, faculty mentor

Bach's Six Unaccompanied Suites are considered his most iconic works for the cello. They were written while he was employed by a music-loving prince, Leopold of Anhalt-Cöthen, who gave Bach compositional freedom, which was unusual for the time. These suites went unnoticed for more than 150 years, until 1889, when 13-year-old Pablo Casals discovered a copy of the manuscript in a used book store in Barcelona. He practiced them for 13 years before presenting them publicly. *Suite No. 2 in D minor* is in six movements (a Prelude, a German Allemande, a French Courant, a Spanish Sarabande, two French Minuets, and a British Gigue), and explores qualities of tragic heights and saddened depths.

ORAL SESSION C —AUDITORIUM — 1:30 P.M.

## **Seducción, by Miguel del Águila, the Latin Influence on Contemporary Chamber Music**

William Mufarreh and Joshua Lockhart

Kristin Reynolds, faculty mentor

Miguel del Águila is a renowned composer hailing from the South American country of Uruguay. His music is distinct in style by its rhythmic drive and native influence. *Seducción*, for clarinet, flute and piano begins with a quasi-dream like section comparable to the Brazilian Chôro (lament). It quickly moves into a relentless frenzy of rhythmic ostinatos and irregular melodic patterns, separated by a short clarinet cadenza. The main section of the piece is apparent through its meter (13/16), and the constant shifting of rhythmic and tonal centers. Although the piece is based on a simple theme, it is augmented and varied, leading to a brilliant and powerful climax.

ORAL SESSION A —AUDITORIUM — 10 A.M.

## **An Echo of Mind and Creativity: A Look into Music Composition and Turning Thoughts into Music**

Timothy Mullins

Julie Stone, faculty mentor

In this presentation, the developmental steps it takes to transfer the creative sounds in one's head into actual sounds for everyone to hear will be discussed. This will be accomplished through the self-composed piece titled *Niwa "Echoes" for Flute and Piano*. It will show how a simple melody can be transformed into a work of art, as well as provide an in-depth look at the motives and recurring elements that helped structure the piece from start to finish. By the end, what was once a plain thought will be transformed into a beautiful form of art through the power of music.

ORAL SESSION B — AUDITORIUM — 11:15 A.M.

## **Romeo Re-Imagined**

Rebecca Myers and Clarice Weiseman

Monica Swartout-Bebow, faculty mentor

Adapted by playwrights, librettists, choreographers, and composers, William Shakespeare's *Romeo and Juliet* has been embraced across artistic genres. Each adaptation has brought something unique to this timeless love story, and Vincenzo Bellini's *I Capuleti e I Montecchi* is no exception. Bellini re-imagined this classic tale by casting a woman as Romeo, using the higher female voice to highlight Romeo's youth and vulnerability. This is the only operatic adaptation of *Romeo and Juliet* to feature this unique casting. In Act I, Scene V, the lovers converge in an emotional reunion, allowing the audience to see the depth of Romeo's character and the forces threatening to tear the lovers apart.

ORAL SESSION B — AUDITORIUM — 10:45 A.M.

## **Walk the Walk: Reflections on the Sounds of Motown**

Alexander Pratt, Caleb Lucido and Eric VanWormer

Woody Chenoweth, faculty mentor

Michael Daugherty is one of the most celebrated and performed living American composers. His works have been recorded numerous times, with a 2011 Nashville Symphony Orchestra album of his music garnering three Grammy awards. Composed in 2005, *Walk the Walk* has become one of his most performed chamber works. The piece was written for contemporary music ensemble, Opus 21 as a tribute to The Funk Brothers - studio musicians who appeared on the majority of Motown's biggest hits. Daugherty uses a memorable guitar motive from The Temptations' *My Girl* as the basis of the work, as well as styles of Detroit's Motown music scene to create a sonic landscape reminiscent of classic soul, funk, and R&B.

ORAL SESSION B — AUDITORIUM — 10:30 A.M.

## **Concerto in Eb Major, Movement 1: Allegro Con Spirito by Johann Nepomuk Hummel**

Roger Vajda

Carter Eggers, faculty mentor

Beginning his piano studies with Wolfgang Amadeus Mozart at the age of 8, Johann Nepomuk Hummel was one of the great piano prodigies of his time. After becoming well established as a virtuoso pianist, Hummel traveled to Vienna to study with Beethoven's teachers Albrechtsberger, Salieri, and Haydn, but unfortunately lived the rest of his career in Beethoven's shadow. His trumpet concerto, originally set in the key of E major, was written for the inventor of the keyed trumpet, Anton Weidinger, and was first performed on New Year's Day, 1804. Hummel's trumpet concerto quickly gained popularity in the music community, and to this day is heralded as being a staple of the trumpet solo repertoire.

ORAL SESSION A — AUDITORIUM — 9:30 A.M.

## **DEPARTMENT OF PHYSICS & ASTRONOMY**

### **NASA University Student Design Challenge Introduction**

Donald Anderson and Dominic Lesniak

Dave Pawlowski, faculty mentor

Our objective was to design a future air-based mass transit system for NASA Glenn Research Center to supplement the existing infrastructure in Atlanta, Ga. Another objective was to reduce the amount of traffic and pollution generated by gasoline vehicles. Factors such as the size of the payload, cost, and the environmental impact of our vehicle were considered. This presentation will cover an overview of our specific NASA University Student Design Challenge project.

ORAL SESSION D — ROOM 301 — 3 P.M.

### **Study of Microclimate Temperature Distribution in an Artificial Structure**

Larry Borum

John Thomsen, faculty mentor

This research investigated temperature distributions inside the parking structure across from Halle Library at Eastern Michigan University. Using an infrared thermometer, we recorded temperature data at specific points on all floors of the structure. We will present the interpretation of our data in light of heat flow mechanisms to gain insight on how heat flow affects local climate. We will discuss how this analysis might be used to predict internal temperature based on external conditions. This technique is also applicable to other features both natural and artificial, which may lead to improved understanding of ecosystems and of environmental impact on technological devices.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **High Altitude Balloon and Design**

Timothy Brazier

Dave Pawlowski, faculty mentor

The goal of this project is to build and launch a high altitude balloon that will observe the atmosphere from the troposphere through part of the stratosphere, including the jet stream. In addition, the balloon payload will send GPS data to the ground in real time, which will be used to track the balloon. An overview of the balloon project, including the primary objectives and summary of the flight systems, will be discussed in this presentation.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Analysis of the Sensitivity of Mars's Neutral Atmosphere in Response to Solar Input**

Matthew Burton

Dave Pawlowski, faculty mentor

NASA's MAVEN mission has been studying the upper atmosphere of Mars and its evolution for the past two years. The focus of this project is on using MAVEN data to better understand how solar activity affects the atmospheric density. We present initial results which show that there are time periods when a correlation between solar output and density exists but there were also many time periods with no correlation, indicating something else was the primary driver of density variation.

ORAL SESSION C — ROOM 304 — 2:30 P.M.

## **External Cavity Diode Laser for Atomic Spectroscopy**

Sam Carano and David Yudowin

Eric Paradis, faculty mentor

The purpose of this research project is to build and develop a working external cavity diode laser (ECDL). ECDLs are used in atomic and molecular spectroscopy to provide a precise frequency probe of the atomic level structure. More specifically, an ECDL allows us to measure the level structure of rubidium atoms using a photodiode amplifying circuit. An electronic circuit provides frequency control of the laser by adjusting the optical feedback to the diode. This paper will elaborate on the conceptual physics associated as well as the construction process concerning the ECDL, controller, and photodiode circuit.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **High-Altitude Balloon Launch**

John Davis and Tyler Fullington

Dave Pawlowski, faculty mentor

The objective of this project is to launch a high-altitude balloon to gather meteorological data from the lower and middle atmosphere. High-altitude balloons are used around the world to help analyze Earth's atmosphere. The high-altitude balloon will carry several payloads including a meteorological package, a communications package, and a flight termination unit F.T.U. The focus of this presentation will be to provide an overview of each of system and discuss the package in more detail.

ORAL SESSION C — ROOM 304 — 2:15 P.M.



## **Influence of Solar Irradiance on the Upper Atmosphere of Mars**

Jonah Pollens-Dempsey

Dave Pawlowski, faculty mentor

The MAVEN spacecraft has been in orbit around Mars for more than two years. This study focuses on variability in the neutral density observations obtained by MAVEN's accelerometer between February 2015 and April 2016. The main objective has been to quantify the correlation of these measurements with the solar irradiance, one of the main inputs to the Mars upper atmosphere. This presentation will show when Mars's upper atmosphere is primarily under solar control and when it is not, based on accelerometer observations.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **NASA University Student Design Challenge Airbus**

Jared Powell and Blake Hendrix

Dave Pawlowski, faculty mentor

A new clean form of short-range air travel is becoming required as urban populations continue to increase. The objective of this project is to design an air bus to substitute modern inter-city travel and alleviate traffic and pollution problems in urban areas. This will require the use of software to model and analyze various systems of the vehicle, such as engine efficiency, thermal functions, frame durability, and noise pollution. The focus of this presentation will be on the design and analysis of the airbus. This project is part of a NASA 2017 Student Design Challenge.

ORAL SESSION D — ROOM 301 — 3:15 P.M.

## **One-Dimensional Photochemical Model of Mar's Upper Atmosphere**

Andrew Richardson

Dave Pawlowski, faculty mentor

The goal of this study is to create a one-dimensional photochemical computer model of Mars's upper atmosphere. With this model, we hope to be able to study the effects of solar variability on the upper atmosphere. Simulations will be performed that look at the ionization processes that shape the atmosphere and how the atmospheric composition changes. I will present on the early stages of computational model building and an overview of my model.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## DEPARTMENT OF POLITICAL SCIENCE

### **State Adoption of Religious Freedom Restoration Acts**

Madelaine Coy

Barry Pyle, faculty mentor

The Supreme Court's decision in *Smith v. Oregon* appeared to limit individual protections under the religious free exercise clause of the US Constitution. The US Congress adopted the Religious Freedom Restoration Act (RFRA) in an effort to restore individual liberty. Nevertheless, *Smith's* diminished protection still applies to the states, leaving them the option to adopt their own version of the Act. Over 20 states chose this path. This study investigates state decisions to adopt their own laws. Ultimately, the study asks how state decisions to adopt religious liberty laws impact social divisions in the U.S.

ORAL SESSION D — ROOM 352 — 3:15 P.M.

### **Learning is Not Child's Play: Assessing the No Child Left Behind Act**

Gwendolyn Dean

Barbara Patrick, faculty mentor

This research examines the implementation and impact of the 2001 No Child Left Behind Act (NCLB) on education quality. More specifically, it outlines how states defined NCLB provisions, including trajectory selection, reporting techniques, confidence interval use, and methods used to inform the public of outcomes. It also discusses NCLB's impact on education outcomes by assessing changes in fourth grade reading scores under NCLB. This qualitative study includes several demographic variables that will allow the study to control for the impact that NCLB's implementations has caused and its effect on school districts that have taken on this process.

ORAL SESSION C — ROOM 330 — 1:30 P.M.

### **Increased Income Inequality in the United States has Led to Increased Food Insecurity**

Leaha Dotson

Jeffrey Bernstein, faculty mentor

Increased income inequality in the U.S. has led to increased food insecurity, as opposed to food security. Food security is understood as all people always having physical and economic access to safe, nutritious food that meets their dietary needs for a healthy lifestyle. Food insecurity results from inadequate physical, social, and economic access to nutritious food. Food assistance programs exist, yet 14% of U.S. households in 2014 experienced food insecurity. This study suggests new sustainable solutions by examining levels of food insecurity, accessibility struggles, current aid programs, and a case study of Ypsilanti residents' relationships with food in a food desert.

ORAL SESSION C — ROOM 352 — 2:30 P.M.

## **Cuban Society and Global Markets: A Historically Disconnected Relationship Bringing Vast Change**

Melissa Dreffs

Richard Stahler-Sholk, faculty mentor

This project will address the changing mindset of Cuban society in regards to the global markets and internal changes that have already drastically impacted the island. I will investigate the values of Cuban society, which once tended to focus on social and economic rights, such as free, quality healthcare and education, and are shifting to prioritize the tourist industry, foreign investment, and economic growth. This presentation will analyze how increased engagement with global markets has the potential to bring explicit inequalities back into the Cuban society, challenging the founding ideals of the Cuban Revolution.

ORAL SESSION D — ROOM 304 — 3:30 P.M.

## **Cross Pressured: The Heteronomy of Perspectives on LGBT+ Issues**

Josi Ezinga, Kristen Hudecz and Monica Laschober

Jeffrey Bernstein, faculty mentor

This research project will examine the effect of a person's environment and its varying "cross-pressures" on the values and belief systems that direct their stances on LGBT+ issues. We will interview people whose alignment of beliefs may be outside of the norm for their particular demographic in order to explore the socio-political roots of such controversy; we will also interview LGBT+ identifying people who grew up in environments they found not to be accepting of who they are and discuss how they—and those around them—handled LGBT+ relations as well as the impact of cross-pressures often felt within that setting.

ORAL SESSION D — ROOM 352 — 3 P.M.

## **Beyond Shelby County: The Effects of a Weakened Voting Rights Act**

Anthony Gonzalez

Beth Henschen, faculty mentor

In the aftermath of the 2016 elections there is ample data to examine trends in voter turnout across the states. This election cycle also provided the first national election in fifty years without the full protections of the Voting Rights Act. Previously covered states and jurisdictions were no longer required to obtain preclearance in the enactment of voting legislation. This presentation will seek to answer which interest was being served by new voting laws in several states and whether the gutting of the Voting Rights Act by the U.S. Supreme Court had an impact on voter turnout and election results.

ORAL SESSION A — STUDENT ART GALLERY — 9 A.M.

## **Effects of Political Issues on Voting**

Alexander Henry

Jeffrey Bernstein, faculty mentor

The purpose of this study is to determine the factors most important to people when voting for elected officials. With the uncertainty of predicting the winner of the last presidential election and the surprising popularity of certain candidates, it's important that we understand what factors people focus on most when voting. The factors I consider are social issues, economic issues, and international issues. I also hope to discover what policies are more important to different demographics based on age, political affiliation, and income. Knowing what factors are considered important by voters can help these issues be better addressed, and help to better predict future election outcomes.

ORAL SESSION A — STUDENT ART GALLERY — 9:45 A.M.

## **Civil Engagement in Argentina After the Last Dictatorship**

Emily Hoffer

Richard Stahler-Sholk, faculty mentor

How has the legacy of the Argentine dictatorship affected civil engagement? This study helps to understand 1) dilemmas of an authoritarian regime's transition to democracy; 2) changes in the form of civic engagement, from conventional political participation to social movements; and 3) how civic engagement is influenced by the narratives and symbols that create historical memory. I will compare Argentina with similar political experiences of democratization and new social movements in Latin America since the late 1980s.

ORAL SESSION D — ROOM 304 — 3:15 P.M.

## **Birth of the Intifada: The Reproductive Social Non-Movement of Palestinian Women**

Hana Kamel

Ebrahim Soltani, faculty mentor

Palestinian women living under occupation utilize their agency in family planning to cultivate a social non-movement against occupation. Some of the Palestinians decided to have more children and larger families. This conscious decision has helped to form a grassroots movement, in which participating women are viewed as building the Palestinian nation. In this paper, I will argue that despite Israeli policies and social narratives attempting to suppress Palestinian fertility, demographic trends, as well as social attitudes, continue to reflect the growing Palestinian resistance.

ORAL SESSION B — ROOM 301 — 10:45 A.M.

## **The Effects that War has on Children and Child Soldiers**

Breanna Kingsley

Volker Krause, faculty mentor

The focus of this research is on effects of war on children and child soldiers. In case studies of civil war in countries such as Syria, Afghanistan, Sri Lanka, Colombia, Somalia, South Sudan, and Iraq, this research distinguishes between psychological, physical, emotional, economic, and educational effects of violence on children, with particular attention to children “recruited” as child soldiers, experiencing tremendous violence and oppression. Research in this regard may provide some important insight into policies to protect children from such traumatic experiences.

ORAL SESSION B — KIVA ROOM — 10:30 A.M.

## **In The Name of God: A Study of Religious Based Extremism in Developing Countries**

Kangkana Koli

Richard Stahler-Sholk, faculty mentor

Developing nations have seen the negative effects of religion-based extremism. Extremism not only threatens the country’s freedom but also limits its opportunity for growth. Why is this rise of religious extremism present in developing nations, and what are the underlying factors causing it? To understand this, the study will comparatively examine cases of extremism in both developed and developing nations. Only through understanding the factors that cause such violent extremism can there be a solution.

ORAL SESSION B — KIVA ROOM — 11 A.M.

## **Is This a Man’s World?**

Anna Kozak

Jeffrey Bernstein, faculty mentor

When considering the impact of looks and gender on electoral success, my initial research suggested that the greatest impact comes not from whether one is male or female, but instead from whether these politicians conform to what a man or a woman “should” look like. Here, I manipulate not only the faces of political candidates to either conform to or rebel against societal norms of what men and women ought to look like, but also manipulate candidate biographies. Candidates were assigned a biography that either conformed to typical gender roles or defied typical gender roles. This study will offer some insight into how refusing to conform to typical gender roles impacts office seekers.

ORAL SESSION B — ROOM 304 — 10:45 A.M.

## **“We’re Not Gonna Take It”: An Examination of Congress and Controversial Music**

Elizabeth Krochmalny

Beth Henschen, faculty mentor

While there has always been a strong relationship between music and politics, this project specifically examines congressional actions in monitoring controversial music in the 1980s. A number of questions will be addressed: What prompted the actions taken by Congress? What were the political, social, and cultural contexts of the time? Which artists and what genres of music were being criticized? What was the outcome of congressional hearings in terms of public policy? What was the response of the music industry and of individual artists?

ORAL SESSION D — AUDITORIUM — 4 P.M.

## **Does Oil Hinder Democracy?**

Jessica Lohr

Ebrahim Soltani, faculty mentor

The Middle East holds almost half the world’s known oil reserves, which is prized globally. The sale of oil has become extremely profitable, as seen in major oil-exporting states such as Saudi Arabia and the United Arab Emirates. Many of these oil-exporting states in the Middle East are not democratic. Is this a simple correlation or there is a causal relationship between oil and authoritarianism? Does oil hinder democracy or do other local, regional, and global factors cause durable authoritarianism in the Middle East? I will explain how oil money has transformed these regimes into rentier states. I argue that other historical factors, regional politics, and global forces play an important role in authoritarianism in Middle East.

ORAL SESSION B — ROOM 301 — 10:30 A.M.

## **Campaigns and Constituents: An In-Depth Look at What Constitutes Equal Representation in America**

Kellie Majcher

Edward Sidlow, faculty mentor

During the congressional election process, a campaign must make constituents aware of its candidate and his/her positions on policy issues. This study examines the constituent outreach efforts of these campaigns and the demographic that is targeted. The data are based on interviews conducted with the campaign managers of Michigan’s house members in Washington. The interviews used a questionnaire designed to encourage free-form discussion. The analysis of the data identifies groups within a district that are targeted and those that are not, and examines whether conclusions can be drawn regarding who strategically should be the targets of a campaign’s attention during a congressional election.

ORAL SESSION A — STUDENT ART GALLERY — 9:30 A.M.

## **Environmental Degradation, Social Deprivation, and the Developmental Process**

Derek McPherson

Richard Stahler-Sholk, faculty mentor

I will address the relationship between large scale development projects, environmental degradation, and political/economic deprivation among indigenous communities, using the examples of the Dakota Access Pipeline and a proposed Mega Dam project in Guatemala. I will demonstrate how communities affected by development projects such as these are excluded from the decision-making process, thus allowing for the negative social and environmental repercussions of corporate-driven development to be understated by its advocates.

ORAL SESSION D — ROOM 304 — 3:45 P.M.

## **The Effects of U.S. Development in Sub-Saharan Africa**

Deborah Munganga

Judith Kullberg, faculty mentor

This paper seeks to explore the goals of U.S. development assistance in sub-Saharan Africa as well as the effects of that assistance. It will focus specifically on assistance intended to strengthen social services, and explore the long-term effects of such assistance on economic growth. The analysis will thus help to illuminate the long-term effects of U.S. foreign policy strategy on sustained development within sub-Saharan Africa.

ORAL SESSION A — ROOM 352 — 9 A.M.

## **How Social Media has Affected U.S. Diplomacy**

Tiffany Ozog

Judith Kullberg, faculty mentor

U.S. embassies routinely use social media to communicate with the citizens of their host countries, but how effective are social media as tools of public diplomacy? To address this question, this paper examines the use of social media by embassies in four different countries. It seeks to identify the effects of social media and of the different types of messages communicated through social media by analyzing public responses to embassies' Twitter feeds and Facebook posts. The results of the study will help to identify the strengths and weaknesses of social media as a tool of U.S. public diplomacy.

ORAL SESSION A — STUDENT ART GALLERY — 10 A.M.

## **Colombia's Peace Process: Political and Social Fragmentation as Obstacle to Lasting Peace**

María Paula Perdomo-García

Richard Stahler-Sholk, faculty mentor

Colombia's armed conflict has been ongoing since the 1960s. Attempts from the government to end this conflict have proven ineffective due to the conflicting interests of the armed guerrillas (FARC), the Colombian government, peasants, and the rest of the civilian population, among others. This research analyzes the social and political fragmentation among these groups to explain the difficulties of building lasting peace in Colombia.

ORAL SESSION D — ROOM 304 — 3 P.M.

**When Will the Unjust Killings Stop?**

Andrew Potter

Kathy Peterson, faculty mentor

My presentation will address a few questions about the police shootings of unarmed black men in this country. When will these killings end? What are the factors that contribute to the racial injustice in policing in many communities in the United States? Racism is a fact of our nation's history, well-entrenched and institutional. I will include a discussion of the history of acts of terrorism against black people in this country, including the existence of hate groups, such as the KKK. I will also examine the impact of the Obama Presidency on racial violence, and the prospect of how a Trump presidency will contribute to or reduce the level of violence in America against people of color.

ORAL SESSION C — KIVA ROOM — 1:30 P.M.**Moving Toward Equality: Civil Rights Movements in the United States and South Africa**

Sarah Reasoner

Barry Pyle, faculty mentor

The contemporary struggle for racial equality in the United States and abroad can be best understood by examining the significance of various Civil Rights Movements in regions around the world. This research compares and contrasts the Civil Rights movement in southern American states with the Civil Rights Movement in South Africa. By looking to the similarities and differences in the strategies, history, and lasting impact of the movements, this research seeks to help foster an understanding of if, and how, black individuals in both regions have gained political and social power as a result of their respective Civil Rights Movements.

ORAL SESSION A — ROOM 350 — 9:45 A.M.**A Crime of Its Own: The Denial of Genocide**

Kory Salagean

Richard Stahler-Sholk, faculty mentor

In the current international system, certain nations can influence which crimes of genocide go unrecognized and therefore unpunished. I will examine the cases of Turkey, Cambodia, and Bosnia to explain what factors affect the denial of genocide. Impunity weakens the post-WWII international norms and laws against genocide, undermining efforts to prevent recurrence.

ORAL SESSION B — KIVA ROOM — 10:45 A.M.



## **The Historical Impact of Women on the Civil Rights Movement**

Annie Somerville and Emily Kindred

Barry Pyle and Barbara Patrick, faculty mentors

Our research will reflect the critical role women historically played leading up to the Civil Rights Movement of the 1950s and 1960s and beyond. We will take a look at the accomplishments they made and compare it to the recognition granted to them throughout history. The research will draw from a mix of relevant primary and secondary sources as we travel throughout Mississippi. The goal of this project is to explore the significance of the contributions made by female activists to the civil rights movement and compare it to how they are perceived by their successors.

ORAL SESSION B — ROOM 304 — 10:30 A.M.

## **Emmett Till: Then and Now**

Annie Somerville

Barry Pyle and Barbara Patrick, faculty mentors

During the summer of 1955, while visiting his family in Money, Mississippi, Emmett Till, a 14-year-old African American boy from Chicago, was kidnapped and brutally murdered by two white men. This project will focus on Till's story and how his death impacted the Civil Rights movement as well as connecting it to the residual impact it has on race relations in the United States today.

ORAL SESSION A — ROOM 350 — 9:15 A.M.

## **DEPARTMENT OF PSYCHOLOGY**

### **“Blood at War:” Effects of Middle Eastern and Western Background on Personal Identity Development**

Layali Alsadah

Silvia von Kluge, faculty mentor

The experience and process of identity development for millennials living with Middle Eastern and White backgrounds, or “being half Arab and half white”, is examined in a qualitative study. A series of interviews focuses on how the process of “discovering the self” is affected by conflicting backgrounds and experiences.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

### **Changing Perceptions of Loss: The Influence of Generation Effects and Message Framing**

Kaylee Brown

Natalie Dove, faculty mentor

This study is a three-part survey that examines how loss can be experienced differently based on one's generation and the way a message is framed. More specifically, participants who were either faculty or staff members (representing an older generation) or students (representing a younger generation) read a mock article that framed loss experiences positively or negatively, and then participants answered questions regarding their own loss experiences. The results of this study have tangible clinical implications because professionals may impact clients' perceptions of loss positively based upon the framing of their messages.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **A Simple Method for the Rapid Induction of Salt Appetite in Mice**

Tasnia Chowdhury

Non-Presenting First Author: Martin A. Raymond

Joseph Breza and Thomas Mast, faculty mentors

Many methods for inducing salt appetite in lab rodents exist, but some of them are quite invasive. In seeking a less invasive alternative, we chose amiloride, a potassium-sparing diuretic. 300uM amiloride is more than sufficient to induce a robust salt appetite within 36 hours, regardless of the animals' solid diet. Mice (n=12) exhibited a significant salt appetite relative to tap-water controls (n=7). All data (20-min tests) were collected in a custom apparatus, offering mice free access to two bottles, and used stereo recording via an audio card to collect voltage deflections associated with drinking. Our data are in agreement with mouse-lick patterns recorded via commercial lickometers.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Intuition in a Formal Setting: Accuracy of Changes in Test Taking**

Derek Dixon

Silvia von Kluge, faculty mentor

This study looks at the accuracy of intuition by using multiple choice tests. In this study scantrons are examined to record the types of changes students have made in their answers via pencil and eraser marks (right to wrong, wrong to wrong, wrong to right). The role of intuition as well as helping students improve their test taking ability are examined.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **The Effect of Gender and Race Bias in Applied Behavior**

### **Analysis Programming**

Kara Gardner

James Todd, faculty mentor

Research shows that autism symptoms are presented differently for each gender. This study will evaluate if demographics of those with autism are affecting how applied behavior analysis programs are written and implemented. Also, the study will analyze how the demographics of the Board Certified Behavior Analysts (BCBAs) influences how they structure the programming. The data will come from surveys sent out to BCBAs, which will ask for the demographic information of the BCBA and of the clients they currently serve. Results will indicate how much BCBAs agree or disagree which objectives should be targeted based on demographics, and they will rank the objectives in order they would prioritize.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Health Behaviors of Overweight Head Start Preschool Children**

Rebekah Kakos, Malinda Holmes and Zeina Tout

Heather Janisse, faculty mentor

Obesity rates in U.S. children have risen in recent decades and low-income, minority youth are at greater risk. Research has shown that many factors, including nutrition, activity and screen time play an important role in obesity among children. The goal of the current study is to examine the health behaviors of low-income, African American children recruited from Head Start preschool centers in Detroit who are currently overweight. These data will offer insight into important intervention efforts.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Coffee, Tea, or Me: The Implications of Gender Stereotypic Norms in the Flight Attendant Role**

Linda LaRew

Natalie Dove, faculty mentor

The manufactured image of a flight attendant is that of a sexy young female who has everything together and serves drinks with a smile. When men were hired into this same position they seemed to be the gender pariah in the workforce because they were doing “women’s work” instead of “men’s work.” What are the implications of stereotypic gender roles in the air? Do these exaggerated gender norms influence perceptions of workplace privilege elsewhere?

ORAL SESSION B — ROOM 304 — 11 A.M.

## **Parental Stress and Child Behavior Problems in Head Start Families**

Trevor Leu

Heather Janisse, faculty mentor

Literature shows that child behavior problems result from multiple factors including socio-demographic risk factors and parental characteristics. Children from low-income, minority families are at greater risk for behavior problems, making them an important population for research and intervention work. Therefore, the present study will explore the association between parental stress and child behavior problems in a sample of low-income, African American families with a preschool age child in Head Start.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Behavioral Variability and Mild Traumatic Brain Injury**

Cody McIntire

Non-Presenting Co-Author: Ted Allaire

Claudia Drossel, faculty mentor

This study examined behavioral variability using an A-B-A reversal design. Participants were recruited for a larger study of which data from two individuals with reported mild traumatic brain injury (mTBI) represent a subset. All participants played a computer game requiring choice among 32 paths to travel from the top to the bottom of a pyramid. The first 50 points were given pseudo-randomly (A), the next 100 points depended on the level of variability in path choices (B), and the last 50 points were given pseudo-randomly again (A). Measures of emotional and cognitive status were also administered. Results pertaining to mTBI and the limitations of the current study will be discussed.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **The Relationships of Obsessive-Compulsive Disorder and Depression in the General Population**

Krystal Moroney

James Todd, faculty mentor

Co-occurring mental illnesses are common, but it is often uncertain what co-occurring symptoms are relevant and what the symptoms implicate within depression and obsessive-compulsive disorder (OCD). This study used a survey of students to determine how the co-occurrence of these two mental illnesses may appear in the general population. It was discovered that there is a statistically significant relation between OCD and depression. Additionally, obsessive symptoms were more correlated with depression than compulsive symptoms. These results can be used when looking at symptoms of those who are on the spectrum of clinical depression or OCD.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Effects of Yoga Intervention on Child with Autism Spectrum Disorder**

Amber Schmitt

Non-Presenting Co-Authors: Kaitlyn Tracy and Morgan Wright

Jin Bo, faculty mentor

The purpose of the present study was to examine the effects of a yoga intervention on a nine-year-old male who was diagnosed with Autism Spectrum Disorder (ASD). It was hypothesized that the yoga intervention would increase gross and fine motor skills. Assessments used in this study were tests of motor abilities as well as yoga poses such as arm and leg extension, cobra, and warrior. The baseline and intervention sessions were video recorded and coded for posture length, pose quality, and frequency of behaviors. Preliminary results showed a change in the quality of arm and leg extension and warrior poses. The hypothesis is being tested further as the intervention sessions are ongoing.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Methods to Retain Underrepresented Families in Developmental Research**

Jenipher Servin Olivares, Cassidy Murray and Fatu Kamara  
Alissa Huth-Bocks, faculty mentor

The objective of this study was to examine the effectiveness of different tracking methods used to follow 120 women, who participated (with their children) in a longitudinal study from pregnancy through the first three years after birth. Elaborate tracking methods were developed to maximize participant retention across five waves of data collection. Descriptive statistics indicated that multiple tracking methods were needed to maintain contact with families over time. Correlation and regression analyses were also used to examine associations between participant characteristics and the time needed to locate families across the study. Implications for future developmental science is discussed.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Human Taste Perception**

Kala Sherman  
Silvia von Kluge, faculty mentor

Human taste perception can be viewed through the lens of different areas of study. Physiology and psychology work together to construct the way we taste; our sense of taste is not obtained merely from the tongue. Taste interacts with vision and olfaction in our overall perception of taste. Data collection for this study involves participants tasting multiple samples of flavored Jello, however some of the Jello samples will be unlikely color/texture and flavor/scent combinations. Responses to the flavors as perceived will be presented. These data will be used to further interpret the interactions among sight, smell and taste perception.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Using the International English Language Testing System as a Predictor of Processing Speed**

Elizabeth Smith, Kara Gardner and Stefaney O'Chel  
Non-Presenting Co-author: David Phillips  
Dean Lauterbach, faculty mentor

Researchers have demonstrated that performance on the Wechsler Adult Intelligence Scale (fourth edition; WAIS-IV), which is the most commonly utilized intellectual assessment (Drozdzick, Wahlstrom, Zhu & Weiss, 2012), is impacted by culture and may lead to inaccurate clinical evaluations (Suzuki & Ponterotto, 2008). We hypothesized that higher scores on the International English Language Testing System (IELTS) would result in faster performance on the WAIS-IV Processing Speed Index Symbol Search subtest even after controlling for common predictors of performance (i.e., age, socioeconomic status, gender and education).

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Effect of Negative Social Feedback on Performance on the PASAT-C**

Rachel Taylor

Thomas Waltz, faculty mentor

The Paced Auditory Serial Addition Task (PASAT-C) is a computer-based measure of distress tolerance (DT). Research suggests people are more distressed when they experience social pressure. Therefore some researchers have modified the PASAT-C to include negative social feedback. This study examines the effect of social pressure on performance during the PASAT-C using self report, performance, and physiological measures in a sample of college students (n=46). Findings show increased performance and engagement with the task when negative social feedback was included.

ORAL SESSION D — ROOM 320 — 4 P.M.

## **Altered Gamma Synchrony in Motor Neural Networks in Autism Spectrum Disorders (ASD)**

William Thacker

Non-Presenting Co-Authors: Ana-Mercedes Flores, Salam Taraben and Kaitlyn McFarlane

Renee Lajiness-O'Neill and JinBo, faculty mentors

Autism Spectrum Disorders (ASD) are characterized by atypical social functioning and restricted and repetitive behaviors (RRBs). This study explored the relationship between motor network synchrony in the gamma band with magnetoencephalography (MEG) and RRBs. Twelve ASD (Age: M=9.1; SD=1.0) and 13 neurotypical (NT) (Age: M=9.3; SD=1.3) children underwent MEG at rest. Synchrony was quantified via coherence between cortical sites in the gamma band. Kendall tau correlations were used to examine relationships between coherence and reported RRBs. Results suggest an altered left caudate-frontal motor control network in children with ASD. Aberrant neural synchrony in gamma may underlie RRBs in ASD.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Social Interdependency and Its Relationship to Sense of Coherence**

Madeleine Young

Silvia von Kluge, faculty mentor

Many important constructs within Positive Psychology such as Antonovsky's Sense of Coherence (SOC) model are beginning to receive empirical attention. Antonovsky's SOC model was developed to determine individuals' ability to successfully manage stressful events. We have hypothesized that a person's SOC score is importantly affected by their social network and its levels of interdependency. Social interdependency is defined as the number of people that are dependent on the individual as well as the number of people the individual themselves depends on. The current research is designed to examine the relationship between SOC and levels of social interdependency.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## DEPARTMENT OF SOCIOLOGY, ANTHROPOLOGY & CRIMINOLOGY

### **Analyses of America's Corporations Practicing Injustice through Privatization of Prisons**

Nadia Ansari

Paul Leighton, faculty mentor

Issue of mass incarceration and prison expansion in America is gaining attention especially among academic researchers and justice advocates. However, the complex flow of money in expansive prison privatization and the role of stock invested in privately run prisons is neglected and treated by media and politicians as unworthy of concern. The aim of this study is to discuss privately owned prisons as lucrative business entities. The research is significant because it draws attention towards involvement of corporations in using private prisons and prison labor as personal gain which contributes to violation of human rights, creation of unstable families, and continued class subjugation.

ORAL SESSION C — KIVA ROOM — 2:15 P.M.

### **The Effect of Polycystic Ovarian Syndrome (PCOS) on Bone Mineral Density of the Skeleton**

Sarah Bruckler

Megan Moore, faculty mentor

The purpose of this pilot study is to determine the effects of Polycystic Ovary Syndrome (PCOS) on the human skeleton. Existing research, which focuses on load-bearing areas of the skeleton, suggests PCOS increases bone mineral density (BMD). However, PCOS is associated with higher body mass indices, so it is not clear if the positive effect of PCOS on BMD is systemic or localized to these areas. Full-body dual-energy x-ray absorptiometry scans were used to compare the total and cranial bone BMD of nonsmoking, premenopausal patients with PCOS and healthy controls. With these scans, it is possible to determine if there is a significant increase in total BMD associated with PCOS.

ORAL SESSION C — ROOM 301 — 2:15 P.M.

### **A Possible Case of Poliomyelitis: A Bioarchaeological Differential Diagnosis**

Sarah Bruckler

Megan Moore, faculty mentor

The objective of this study was to determine the cause of pathology observed in the lower limbs of a female skeleton excavated from a 7th-11th century cemetery in Saleux, France. Lower limb bones were particularly gracile compared to upper limb bones, suggesting the individual was non-ambulatory during life. Bilateral deformation of the acetabulae, femoral heads, coxa vara, and widened pelvis were observed. Congenital growth disorders and neurological afflictions (e.g. poliomyelitis, cerebral palsy) were compared to develop a comparative diagnosis. While further testing is required for certain diagnosis, this study suggests poliomyelitis was the likeliest

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Urbanization and Colony Collapse Disorder**

Erica Buning

Kendra Smith, faculty mentor

Honeybees are critical for crop production as they pollinize one-third of the foods we eat. Managed honeybees hired by U.S. farmers contribute to \$14.6 billion in crop yields. According to the U.S. Fish and Wildlife Service, there has been an 88% decline in the number of honeybee colonies since 1980. Colony Collapse Disorder occurs when all of the worker bees in a hive spontaneously disappear. Current research implicates urbanization, man-made pesticides, and other human activities in creating strain on these colonies. This presentation includes field research from six years of beekeeping along with data from scientific studies on possible causality and potential solutions.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Historic Rural Landscapes of Willow Metropark**

Rachel Dudzik

Bradley Ensor, faculty mentor

Historic landscape studies—how humans in the past culturally constructed their landscapes—has become a major topic in historic archaeology. However, little research has been conducted within southeastern Michigan concerning historic rural landscapes. My research uses archaeological survey data from Willow Metropark to define archaeological sites, classify them by function, date them, and observe their spatial patterns. The results contribute new information on 19th to early 20th century settlements and their cultural landscapes within this rural area along the Huron River.

ORAL SESSION C — ROOM 204 — 1:30 P.M.

## **Regional Interaction and Pottery at a Prehistoric Late Woodland Site in Southeast Michigan**

Julia Joblinski

Bradley Ensor, faculty mentor

How prehistoric groups interacted is an important topic in archaeology, which has not been well-researched in southeast Michigan. This presentation describes my analysis of pottery decoration and form, which are useful variables for studying regional interaction, using a collection from Site 20WN21—a Late Woodland period site found in Oakwoods Metropark. The results enable interpretation on regional interaction through comparison with stylistic and decorative traits from surrounding regions, which contribute to our understanding of the complex prehistory of Michigan as a whole.

ORAL SESSION C — ROOM 204 — 1:45 P.M.



## **Postcranial Metric Sex Estimation among the Chiribaya of Southern Peru**

Jessica Lacerte

Megan Moore, faculty mentor

Sex estimation is crucial to reconstructing the biological profile of modern and archaeological skeletal samples. Metric sex estimation is useful when skeletal preservation is poor. We present results of logistic regression analysis of thirteen postcranial metrics. The talus was included as it is dimorphic and preserves well. The measures with the best classifications rate are: scapula ht.(87.7%), femoral epicondylar br.(84.9%), and femoral head diam.(82.5%). The results were compared to those of talus dimensions. The talus had a classification rate of 83.7%. Our results suggest that the talus can offer an alternative when other skeletal elements are missing or damaged in bioarchaeology.

ORAL SESSION C — ROOM 301 — 2:30 P.M.

## **Juvenile Delinquency and Cause of Death for Adolescents between 13 and 17 Years in Detroit in 2015**

Tao Lei

Megan Moore and Brian Sellers, faculty mentors

The records for death cause of the 38 adolescents in or around Detroit in 2015 were examined from case files at the Wayne County Medical Examiner's Office. Adolescents between the ages of 13 and 17 years were more prone to being victims of violence than natural death with a peak in violent deaths during April. The majority of adolescents were Black males. The manner of death among the majority of adolescents was accidental, however the cause of death was all in a violent manner. The majority cause of death among adolescents was multiple injuries with gunshot injuries being second. The findings show that among accidental and homicide deaths among adolescents, the manner of death was violent.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Liminality in the Mosh: Neoliberalism, Alienation, and Heavy Metal**

Tristan Leighton

Xianghong Feng, faculty mentor

This study serves to reveal the link between the effects of neoliberalism, in the form of consumer alienation, and participation in the heavy metal community. The heavy metal community, namely the heavy metal concert, acts as a place of refuge from consumer alienation. Previous research has found that the social mechanism which mitigates the stresses of consumer alienation is catharsis brought about through the Ritual process as detailed by Victor Turner. Using participant observation, formal interviews, and Internet surveys, this study further supports these findings, and suggests a secondary mechanism for catharsis in the form of socialization with like-minded people.

ORAL SESSION D — AUDITORIUM — 3:45 P.M.

## **Two Weeks Notice: A Study of Voluntary Employee Turnover in Fast Food Restaurants**

Patricia Mulroy

Xianghong Feng, faculty mentor

There have been many studies of employee retention in fast food restaurants displaying patterns of high employee turnover due to the strenuous conditions that come with the job. This anthropological study further looks at the turnover rates in fast food restaurants in order to determine why employee retention is so low and what can be done to fix this growing pattern of the interchangeable worker. Both participant observation and employee surveys of Zuma Fresh Mexican Grill were conducted. The results of the research emphasizes to solve the problem a system must be used which takes in the needs of the employees and management, and promotes employee appreciation and retention.

ORAL SESSION A — ROOM 320 — 9 A.M.

## **Cohesive Selves: Identity Formation of Punjabi Sikh Families in Southeast Michigan After 9/11**

Bethany Preston

María Luz García, faculty mentor

In the aftermath of the World Trade Center bombing on September 11, 2001 there has been a radical shift in public policy and popular attitudes towards immigrant populations in the U.S. This research focuses on the formation and representation of identity among southeast Michigan's Sikh youth. Through the use of ethnographic methods, this study considers this community in the context of the increasingly common trend of immigrants to settle in smaller, predominantly white U.S. towns and reflects on it in the contemporary historical context.

ORAL SESSION B — ROOM 301 — 11 A.M.

## **Analyzing Counter Improvised Explosive Device Equipment for Effectiveness in Preventing Casualty**

Roxanne Reinhardt

Megan Moore, faculty mentor

This presentation explores injury patterns of casualties from combat due to improvised explosive device (IED) damage which can vary due to the circumstances related to an injury. The United States Department of Defense awards military contracts to defensive suppliers. The effectiveness of the products of these contracts supplied in comparison to scholarly recommendations is analyzed to determine what is missing from the equipment to provide recommendations for future policy. The preliminary conclusion of this research is that these defense contracts currently being awarded do not provide the full protection necessary due to lack of ability to be both functional and protective.

ORAL SESSION C — ROOM 301 — 2 P.M.

## **Societal Perception of Prison Life versus Reality**

Max Rickard

Carey Ford, faculty mentor

With America having the largest incarceration rates in the world, society has developed a certain understanding of prison and how life is experienced. This research compares and contrasts media and popular culture representations of prisons, with a show such as "Orange is The New Black". This study takes an in-depth look to understand how media representation shapes societal perception of prison in an aspect that is not entirely accurate.

ORAL SESSION C — KIVA ROOM — 2:30 P.M.

## **Environmental Degradation and the Progression of Inequality in Hebei, China**

Summer Smith

Xianghong Feng, faculty mentor

Research has found that lack of enforcement has resulted in environmental degradation that has perpetuated the inequality gap between rural and urban China. To promote economic growth, institutions meant to regulate corporate enterprises have less authority. The research focuses on the roles that the environment plays on the health-wealth gradient in Hebei Province. Secondary sources suggest that through the establishment of township enterprises the economy grew significantly in accordance with pollution and exploitation of the environment. The prospect of economic growth has given financial incentive to ignore environmental regulations and maintain inequality within China and worldwide.

ORAL SESSION A — ROOM 352 — 9:45 A.M.

## **The Impact of Domestic Violence on Self-concept: A Feminist Symbolic Interactionist Perspective**

Kali Stanton

Robert Orrange, faculty mentor

This research aims to determine how domestic abuse impacts a victim/survivor's sense of self-concept. Within a feminist framework, I employ symbolic interactionism to analyze how the following processes may impact a woman's sense of self-concept: role-taking, reflected and self appraisal, internalization of blame, and negative body identity. I then layout a potential format for an in depth qualitative study to examine women's lived experiences with battery. This theoretical model is often used to explain much of our everyday lives. Thus, this approach allows for a better framing of battered women's cognitive processes and choices while acknowledging their agency and without victim blaming.

ORAL SESSION A — ROOM 204 — 9:15 A.M.

## **And Justice for All? Race, Racism, Gender, and Police Brutality in America**

Simone Tisder

Brian Sellers and Paul Leighton, faculty mentors

Police brutality is the use of excessive or unjustified force or harassment that exceeds a lawful police purpose. Historically, police brutality is documented as disproportionately applied to the most vulnerable groups in society. Recent media portrayals depict Black males as the primary target of such excessive force, which often overshadows brutality against Black women. This skewed media coverage reflects gender bias—hiding violence and crimes against women by police, which creates false assumptions about this social problem. This paper seeks to elucidate the prevalence of police brutality against women, the associated ethical concerns, and future directions for research and practice.

ORAL SESSION C — KIVA ROOM — 2 P.M.

## **Self-Control Mediates Impact of Past Trauma on Teen Dating Perpetration**

Madison Trace

Roger Kernsmith and Grigoris Argeros, faculty mentors

Teen dating violence (TDV) is a serious public health concern that can cause long-term health problems in its victims. This study used data collected by a survey funded by the CDC to explore whether self-control (SC) operated as a mediator between past trauma and TDV perpetration. The survey was distributed to random samples of 6th and 9th graders from 14 public schools. Correlations revealed a strong negative relationship between SC and TDV perpetration as well as a positive relationship between past trauma and TDV perpetration. A structural equation model analysis was conducted. The results from this statistical test, as well conclusions regarding their interpretation, are presented.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Controversies in Batterer Intervention Programs: Doing Good, Well**

Yeliani Valdez

Paul Leighton, faculty mentor

One in three women has been a domestic violence (DV) victim in their lifetime. In DV blame is shifted from the perpetrator to the victim. Accountability is an important factor that can transform batterers. This is what Batterer Intervention Programs aim to do. The Duluth model focuses on the transformation of batterers through a social change framework. There are many treatment options that the perpetrator can be referred to such as anger management and couples counseling. However, there have been disagreements on which methods work best for the perpetrator and victims. This research analyzes the Duluth model, its adaptations and alternatives to decide which methods works best.

ORAL SESSION A — ROOM 204 — 9 A.M.

## **Circumstances Affecting College Students' Residential Choices**

Victoria Warnecke

Luis Sfeir-Younis, faculty mentor

Millennial college students seem to be living independently less than in past generations. This change in young adult residence has prompted controversy about their responsibility and respectability as a generation. The objective of this study is to identify where students are living, and key reasons they chose those living arrangements as opposed to other options. This study reveals the most important circumstances students consider when deciding to live with or away from their families. These findings are important to understand new and developing challenges young adults are facing, which are changing the experience of young adult life.

ORAL SESSION A — ROOM 320 — 9:30 A.M.

## **DEPARTMENT OF WOMEN'S & GENDER STUDIES**

### **Votes of Color: An Examination of Voter Suppression in Communities of Color**

Kristofer Lane

Dyann Logwood, faculty mentor

Voting is one of the cornerstones of being an American citizen. As our politicians create policy, they act in the interest of the people that keep them in office. Voting rights is a critical issue for communities of color, as they need people in political office to act in their best interest. This examination will discuss the creation of policies that altered voting rights for people of color such as the Voting Rights Act of 1965 or the 2014 Supreme Court decision in *Shelby County v. Holder*. We also will examine how these policies affected voting in communities of color.

ORAL SESSION A — STUDENT ART GALLERY — 9:15 A.M.

### **Behind Healthy Babies**

Hannah Saul

Kathryn Ziegler, faculty mentor

This presentation investigates the treatment of women who give birth in the hospital. Childbirth is an event that very rapidly transitioned from taking place at home to the hospital in the past 100 years. A critical look is taken at the effects of common medical procedures women are subject to during childbirth, many of which are overlooked when a healthy newborn is the result.

ORAL SESSION A — ROOM 204 — 10 A.M.

## **Political Climate and Abortion Narratives**

Micaela Stevenson

Jacqueline Goodman, faculty mentor

Abortion narratives frequently observed in White, classist, religious fundamentalist societies are consistent with anti-choice perspectives, excluding marginalized populations. My research asks why these narratives persist and emphasizes including marginalized population narratives, yielding a holistic perspective on abortion. I will conduct a literature review on abortion since *Roe v. Wade* and research literature presented to various populations on abortion, comparing the persistent narrative to the perspectives of people excluded through literature analysis. Ultimately, my findings will lead to including marginalized populations' narratives, leading to policy change and education reform.

ORAL SESSION A — ROOM 204 — 9:45 A.M.

## **The Evolution of Black Feminism in Society and the Role it has Played in Interpersonal Relationships**

Sina Webster

Dyann Logwood and Yvette Colon, faculty mentors

The emergence of intersectional, Black feminism came about in the mid 1970s when it proved apparent that the second wave of the, overwhelmingly white, women's movement was discriminatory towards women of color and working women. Despite the numerous studies of Black feminism itself, there has yet to be focused research on perceptions held of those individuals who identify as Black feminists. This research focuses on the development of Black feminism in U.S. society, the perceptions held of feminist-identifying Black women by non-feminist identifying Black men, and how these perceptions affect the treatment of the former by the latter.

ORAL SESSION B — ROOM 304 — 11:30 A.M.

## **Reconceptualizing Objectivity and Justice in Feminist Research**

Faith Williams

Ashley Glassburn Falzetti, faculty mentor

Historically, to achieve justice in research, scholars have relied on using objectivity—a relative concept. Objectivity itself is founded on the idea that one can be nondiscriminatory and rid of all bias simply by using a particular set of scientific methods. However, because these “scientific” or objective methods were created and further developed mainly by wealthy, white, educated, heterosexual men, these methods are inherently unjust. Feminist scholars have attempted to rename and reconceptualize the idea of objectivity in order to achieve just research methods. This new conceptualization produces justice for marginalized communities, which I argue is the most essential part of producing research. Further, I argue that the duty of the just researcher is to produce knowledge that can actually aid people in the marginalized groups they study which then creates justice in the eyes of those communities.

ORAL SESSION A — ROOM 204 — 9:30 A.M.

## DEPARTMENT OF WORLD LANGUAGES

### Exploring English Language Education in Japan

Ryotaro Amano

Cynthia J. Macknish, faculty mentor

In 2013 Japan was ranked 40th of 48 countries on the average score in the Test of English for International Communication (TOEIC) (Hongo, 2014). In addition, Japanese scores on TOEFL iBT, which measures language proficiency for academic studies, are below Korean scores (Test and Score Data Summary for the TOEFL iBT Tests, 2015), despite the fact that the two countries have similar language policies and cultures. This presentation will explore the quality of English education at Japanese elementary schools to try to explain why the communicative level of Japanese people in English is so low.

ORAL SESSION C — ROOM 350 — 1:45 P.M.

### Intersectionality of Jewish Women in Ruth Kluger's *Still Alive* and Anzia Yeziarska's *Bread Givers*

Matthew Benkarski

Elisabeth Däumer and Carla Damiano, faculty mentors

Within both texts we find two passionate and vehemently independent women who seek to go their own way and diverge from what is expected of them by their more traditional Jewish families. Responding to the societal enforcement of patriarchal gender roles, and doubting the validity of their own traumatic experiences, both women pay a high price for questioning the expectations set for them by others.

ORAL SESSION D — ROOM 350 — 3 P.M.

### The Influences of Auto Shows

Morgan Day

Margrit Zinggeler, faculty mentor

This presentation will be examining the International Automobile Exhibition in Berlin in 1935. In this research, the ways in which the automobile affected the German way of life under Adolf Hitler will be examined based on a variety of sources, including a set of original Berlin newspapers from 1935. In addition, the topics of how auto shows shape America's automobile culture and ways of living in current times will be analyzed and compared to the influence that the 1935 International Automobile Exhibition in Berlin had on the society.

ORAL SESSION B — STUDENT ART GALLERY — 11 A.M.

## **The Evolution of English in Saudi Arabia: Individual and Collective Change**

Kayla Finch

Wendy Wang, faculty mentor

The use of English in Saudi Arabia in education and in professional settings has been changing since the introduction of the language in the 1920s. Through interviews with a Saudi Arabian student, I have gathered insight into how English usage has changed personally for them and how they see it changing in their country as a whole. By analyzing this narrative along with data collected through research, I have found parallels between what this student has experienced and what has been happening to the role of English in Saudi Arabia.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **The Natural World in Gertrud Kolmar's *A Jewish Mother from Berlin***

Krystin Frane

Elisabeth Däumer and Carla Damiano, faculty mentors

In *A Jewish Mother from Berlin*, Gertrude Kolmar uses vivid imagery to describe the natural surroundings of her main protagonist, the Jewish widowed mother, Martha. In the novel, nature, including animals, is used as allegorical representation of Jewish culture (race and religion) while Christianity is represented through technology and urbanization. This binary reveals the cultural tensions as the rise of Nazi propaganda in the 1920s increasingly marginalizes and endangers the lives of German Jews.

ORAL SESSION D — ROOM 350 — 3 P.M.

## **Dante's *Inferno* in Liana Millu's *Smoke over Birkenau***

Arica Frisbey

Elisabeth Däumer and Carla Damiano, faculty mentors

When it comes to Holocaust literature, works written by survivors are usually autobiographical and read as such. However, Liana Millu's *Smoke over Birkenau* has moments when autobiographical truth collides with the fiction of another story of surviving the worst that life, and death, can offer up: Dante's *Inferno*. Millu's many allusions to Dante compel an examination of the invocations and inversions of Dante's hellish circles in her portrayal of the abyss of Auschwitz.

ORAL SESSION D — ROOM 350 — 3 P.M.



## **Heard It through the Grapevine: Theoretical Research of Idioms and Metaphor as It Relates to Culture**

Sebah Ghannam and Lauren Jones

Genevieve Peden, faculty mentor

As native English speakers and advanced French language learners, we intend to study French and English idioms, metaphors, and applicable research to show that idioms and metaphors can be used as an alternative way to study the culture of their speakers. We will apply this process of studying idioms and metaphors to a less known language, Swahili, and make assumptions about the culture of its speakers. The accuracy of our assumptions will either verify or negate our hypothesis that when studying the metaphors and idioms of a language, one will be able to attain an effective understanding of their culture.

ORAL SESSION C — ROOM 350 — 2:15 P.M.

## **Silence as Means of Survival in Fascist Italy: Elsa Morante's *History: A Novel***

Ashley Horn

Elisabeth Däumer and Carla Damiano, faculty mentors

*History: A Novel (La Storia)* follows the struggles of a half-Jewish, working-class widow in Fascist Italy. As the regime and its ever-tightening circle of racial laws make life more unbearable, Ida Mancuso hides in plain sight as she keeps her identity secret. Her silence exacerbates her fears of discovery as she inwardly suffers along with the true victims. Morante's controversial novel underscores the victimhood of ordinary citizens in the ever-changing reality of Italy's totalitarian regime.

ORAL SESSION D — ROOM 350 — 3 P.M.

## **A Look into the Effect of Motivation and Content Learning on Target Language Progression**

Jessica Jarvis

Wendy Wang, faculty mentor

Despite the lack of structure and consistency in the latter part of her English language education, the subject of this study was able to become fluent in English. It is known that motivation plays an immense role in learning English as a second language. The purpose of this study was to explore how different sources of motivation influenced the learner's progress in language learning through content, and how her application of the target language helped shape her English language skills.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **“Stereotypisch Deutsch”: An Examination of Stereotypes of Germans and the Effects in the Business Environment**

Alicia Marvinez

Margrit Zinggeler, faculty mentor

Stereotypes can be seen as a tool to understand why a person or group of people behave the way they do. These stereotypes change over time as human-kind and cultural perceptions change. The purpose of this research is to review what stereotypes Americans have held of Germans over the years, starting in 1945, after the end of World War II, through today. The analysis includes what stereotypes remain, which have dissipated, and which have simply been modified, as well as questions of why such changes, or lack thereof, have occurred. Additionally, this study contemplates in what way these present stereotypes affect doing business with Germans.

ORAL SESSION B — STUDENT ART GALLERY — 10:30 A.M.

## **Gendered Memory in Liana Millu’s *Smoke Over Birkenau* and Primo Levi’s *Surviving Auschwitz***

Andrea Nicholson

Elizabeth Däumer and Carla Damiano, faculty mentors

By comparing the Holocaust narratives of Millu and Levi through the lens of what Pascale Rachel Bos terms “gendered memory,” this presentation examines the structure of men and women’s values, social relationships, and coping mechanisms in order to shed light on what may have helped some of these men and women survive in the extreme circumstances of concentration camps.

ORAL SESSION D — ROOM 350 — 3 P.M.

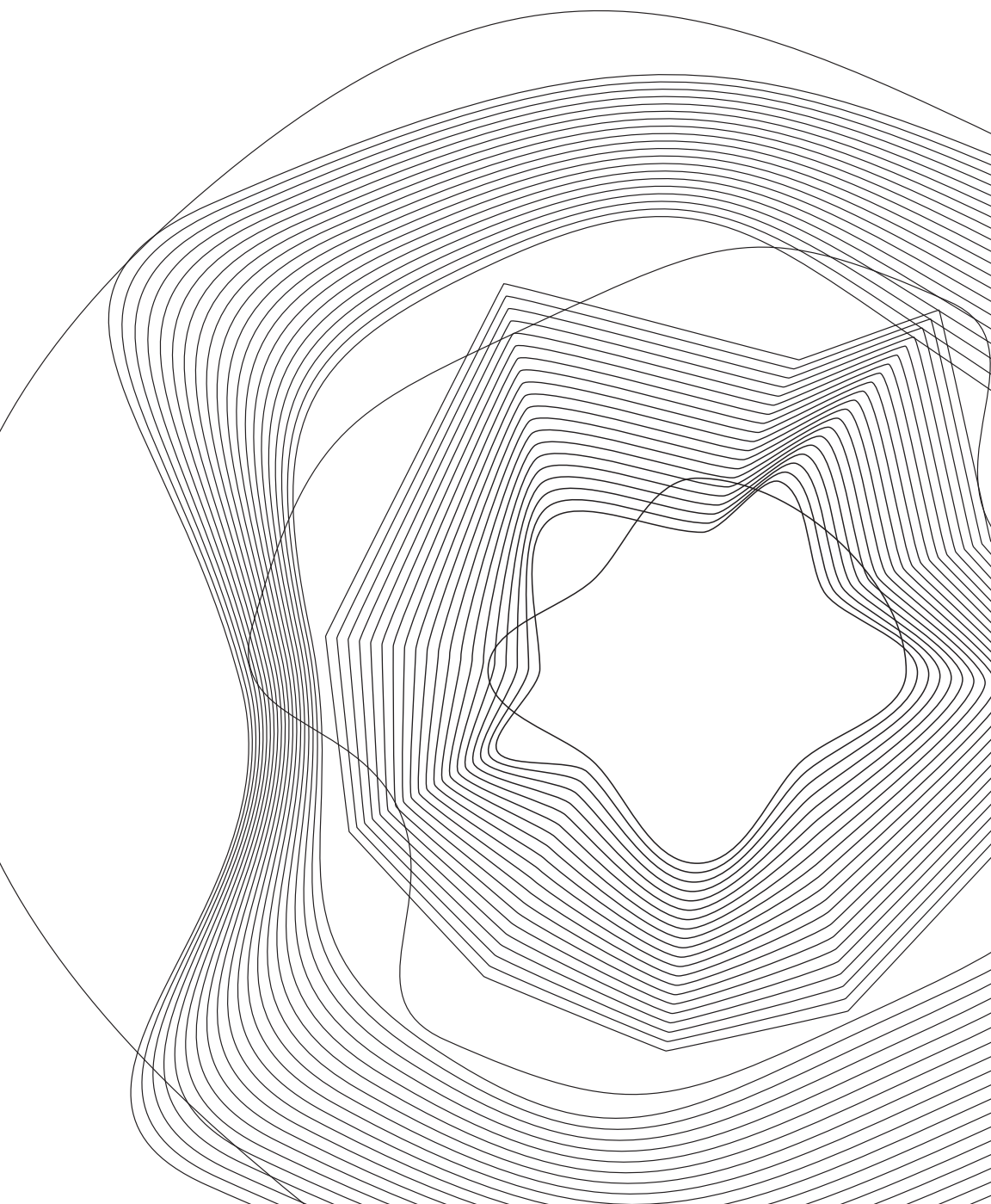
## **Walt Disney Wasn’t the First: The Incredible Untold Story of German Filmmaker Lotte Reiniger**

Meara Pellar-Kosbar

Margrit Zinggeler, faculty mentor

More than 10 years before Walt Disney’s (1937) *Snow White and the Seven Dwarves* was first shown in theaters, a Berlin woman, Lotte Reiniger had already animated and produced the first full-length feature film, *The Adventures of Prince Achmed*. Despite her pioneering work, Reiniger is mostly unknown. This presentation illuminates her work and her revolutionary form of animation, as well as the political conditions during Hitler’s rise to power. Lotte Reiniger changed the film industry. Her accomplishments must be known and celebrated.

ORAL SESSION B — STUDENT ART GALLERY — 1:45 A.M.



# COLLEGE OF BUSINESS

## DEPARTMENT OF ACCOUNTING & FINANCE

### **Is Death Spiral Financing the Best Option for Lenders and Borrowers?**

Austin Dwyer

Yu Zhang, faculty mentor

Death Spiral Financing is a type of loan lenders give to a firm in exchange for convertible debt, which can be converted into stock at below market prices. This differs from traditional convertibles because there is no fixed conversion price. Instead, the price can be reset lower if the firm's stock price falls below the conversion price at the time of issuance. As the process repeats itself, the stock's price spirals downwards. This process benefits the bondholders at the cost of the shareholders. This project seeks to find out the reasons of issuing death spiral convertibles by comparing between issuing and non-issuing firms on characteristics of CEOs and firms.

ORAL SESSION B — ROOM 350 — 11:15 A.M.

### **An International Analysis of CSR Rankings and a Country's Culture**

Victoria Fisher

Lois Mahoney and Joseph Scazzero, faculty mentors

As globalization has increased the number of companies in different regions, denoting corporate social responsibility (CSR) in their financial statements has grown. Increasingly, companies are communicating their activities through CSR reports that outline corporate initiatives to access and take responsibility for the company's effects on the global environment and impact on social welfare. By using Geert Hofstede's five dimensions of culture, we will perform an ANOVA analysis to compare a company's industry and/or country's CSR social, environmental, governance, and total CSR scores to a country's power distance, individualism vs. collectivism, uncertainty avoidance, masculinity vs. femininity, and long term orientation vs. short term normative orientation culture score. Through our analysis, we will try to find a correlation between CSR scores and a country's culture.

ORAL SESSION B — ROOM 350 — 11 A.M.

### **Salient Racism at EMU: How Institutionalized Inequities are Detrimentally Impacting Black Students**

Jaren Johnson and Amanda Brezzell

Dave Wozniak, faculty mentor

Behavioral experiments have previously shown that EMU students discriminate based on racial identity. This research has also shown that EMU has a large and significant outcome gap between black and white students. In the College of Business, the probability of a black student graduating is 24% lower than a similar white student. We expand on this research by using a needs-based assessment to locate other disparities based on race which may be contributing to the observed level of discrimination and outcomes at EMU.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Poverty Discrepancies in the USA: An Analysis of Selected Characteristics**

Aimee Martinez

Khairul Islam, faculty mentor

Poverty is an important measure of deprivation of a nation. As measured by the United States poverty threshold, 43.1 million of U.S. people lived in poverty in 2015, with an overall rate of 13.5 percent. Poverty among children under age 18 is significantly higher (19.7%). In this presentation, we analyze U.S. poverty discrepancies by gender, region, nativity, and age using trends and statistical tests, along with other descriptive measures of poverty rates in 50 states and the District of Columbia using the United States Census Bureau poverty data.

ORAL SESSION C — ROOM 352 — 2:15 P.M.

## **Investigating the U.S.-China Import-Export Disparity**

Safa Muhammad

Khairul Islam, faculty mentor

The United States trade deficit with China keeps growing because the U.S. imports more than it exports. How can we characterize the import-export disparity? In this study, we seek answers to this question, along with an analysis of the trend of import-export discrepancies existing between the U.S. and China.

ORAL SESSION A — ROOM 352 — 9:30 A.M.

## **DEPARTMENT OF COMPUTER INFORMATION SYSTEMS**

### **Investigation of Data Analysis for CRM System**

Jieon Kim

Huei Lee, faculty mentor

In my research, I am addressing how companies can earn more profit by analyzing customers, especially online customers. After collecting data from Microsoft CRM Systems, the data will be processed with several statistical methods and data analysis tools. The objective of this research project is to study data analysis tools and statistical methods. I am going to investigate which standard is best to increase sales and company profits depending on data characteristics from Microsoft CRM Systems. Lastly, I propose a data mining tool and Microsoft excel for collected data in this research project.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## DEPARTMENT OF MANAGEMENT

### **The Impact of Green Business on the Building of Sustainable Communities**

Emily Plummer

Lisa Barley, faculty mentor

Education starts early about renewable energy sources and giving back to our community, but it seems that our sense of community has diminished as technology has developed. Instilling a sense of community within businesses, the basis of our society, may strengthen community building and therefore our path towards sustainable communities. Buyer behavior, green businesses, sustainable communities, and community building have been defined in order to further research regarding whether green businesses have a more significant impact on the well-being of a community. Research will be conducted through six case studies of green and non-green businesses within Ypsilanti.

ORAL SESSION D — ROOM 301 — 3:45 P.M.

## DEPARTMENT OF MARKETING

### **Your Advertisement is Trending #ShandySelfie**

David Howard, Brittany Knox, Shelby Adkins,

Stefanie Barcelos and Zaeem Zafar

In Memoriam: Sheila Sasser, faculty mentor

Lewis Hershey, faculty mentor

Current research has shown that social media has become an important component of a successful integrated marketing communications (IMC) campaign. Primary and secondary research was conducted to develop an IMC campaign for Leinenkugel. How can Leinenkugel use social media to create an effective IMC campaign? Using analysis of past advertising campaigns, this study demonstrates how synergizing social media with the entire campaign has successfully increased brand recognition and sales.

ORAL SESSION C — ROOM 320 — 1:45 P.M.

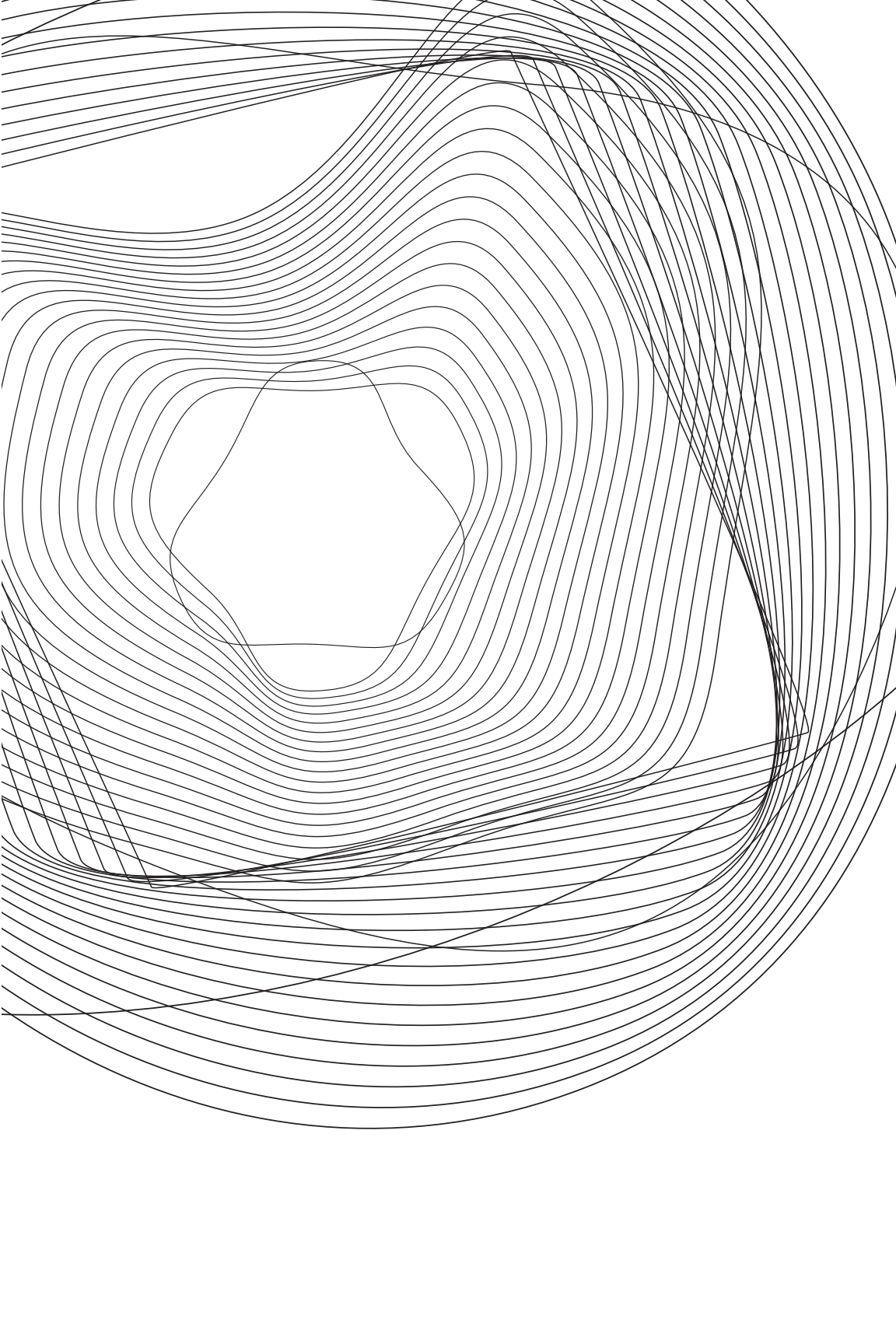
### **Managing Supply Chain Risk through Collaboration**

Alyssa Rollins

Harash Sachdev, faculty mentor

In an increasingly uncertain, complex, and global supply chain environment, supply chains face a greater multitude of risks. Information sharing and collaboration between supply chain players can reduce risk within the supply chain. This project discusses emerging supply chain risk management strategies pertaining to distribution of products and how purchasing and logistics departments can work to build a resilient supply chain.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.



# COLLEGE OF EDUCATION

## DEPARTMENT OF LEADERSHIP & COUNSELING

### **Multicultural Leadership Experience: Student Collaboration for Social Change**

Evelina Jones, Tamarra Washington and Leah VanLandingham  
Kate Curley and Caroline Horste, faculty mentors

Whether a student is just beginning to explore the topic of social justice or continuing their journey toward becoming an advocate, the Multicultural Leadership Experience (MLE) is designed to foster an environment that allows for growth, learning, and understanding of all its participants. Using ourselves as case studies and online, public community responses to prompts, and personal reflections, this poster presentation will demonstrate how dialogue can help students lean into discomfort to better understand identity, privilege and oppression.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

### **Understanding the Communication Methods and Leadership Styles of EMU's Honors College Student Fellow Program**

Lauren Renou  
Linda Foran, Dennis O'Grady, Jackie Tracy  
and Rebecca Sipe, faculty mentors

The purpose of this research is to explore the communication methods and leadership styles that have emerged from participants in Eastern Michigan University's Honors College Student Fellow Program. Through a quantitative study, the researcher will investigate current and past program participants' impressions of the communication methods and leadership styles that were developed within the Honors College Student Fellow Program. A literature review of other Honors College "Student Fellow" programs will also be included in this study.

ORAL SESSION A — ROOM 330 — 9:45 A.M.

## DEPARTMENT OF SPECIAL EDUCATION

### **Challenges Faced by Families of Children with Disabilities**

Madison Pasini  
Tsai-Ping Li, faculty mentor

When a child is born or diagnosed with disabilities, it invariably causes ripple effects impacting his/her family, school, and community. Based on literature reviews and personal experiences, this poster presents issues that might affect family dynamics and interactions with school and community. The presentation further provides practical suggestions, including web-based and other resources, from which families can benefit.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.



## **Cultivation of Self-Determination and Self-Advocacy of Students with Disabilities**

Stephanie Porcari

Loreena Parks, faculty mentor

One way educators can foster independence in a society that appears to take independence for granted at times is by supporting the development of self-determination and self-advocacy within students during the school-age years. A literature review was conducted to compile the components of self-determination and self-advocacy of students with disabilities. This presentation will explore the cultivation of self-determination and self-advocacy within students through strategies involving classroom interactions, teacher-family communication, and student-led Individualized Education Program meetings.

ORAL SESSION C — STUDENT ART GALLERY — 2 P.M.

## **Internationally Adopted Children: How Will Their Language Development Be Affected?**

Carli Shankland

Linda J. Polter, faculty mentor

Adoption is a common way to become a parent in the United States. Many adoptions are from countries outside of America. With this exchange, it brings up the question of English language development in foreign adopted children. Do the child's receptive and expressive language skills become hindered when learning English? This poster summarizes the unequivocal results of research into the effects that international adoption has on language development.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Activism, Cultural Awareness, and Special Education: At the Crossroads**

Michaela Williamson

Phil Smith, faculty mentor

According to the U.S. Department of Education in 2013, nearly 50% of students receiving special education services were of one or more non-Caucasian ethnic groups. Overrepresentation of minority students in special education may be due to the perceptions and misunderstandings that educators hold toward ethnic groups different from their own. Drawing inspiration from Dr. Beth Harry's work on cultural reciprocity, original research was conducted using interviews focused on education professionals' perceptions, beliefs, and values. In this presentation, the author will discuss the work of Dr. Harry, share the interview findings, and describe personal insights resulting from the research.

ORAL SESSION C — ROOM 330 — 2:30 P.M.

## **Disability and Diversity: What Students with Intellectual Disabilities Can Teach Us**

Katrinna Withrow

Jacquelyn McGinnis, faculty mentor

In early elementary education, literature is used to promote awareness of human differences such as race, color, ethnicity, religion, and even sexual orientation. However, disabilities are not always discussed as an element diversity. This presentation will explore the work of middle school students with intellectual disabilities who have created their own children's inclusion literature. Throughout the process, they were able to learn more about themselves and what they want others to know about disability labels in general.

ORAL SESSION C — STUDENT ART GALLERY — 2:15 P.M.

## **DEPARTMENT OF TEACHER EDUCATION**

### **The Life of a Teacher: A Life of Leadership**

Brandon Eldridge

Martha Baiyee, faculty mentor

Many think that teaching is a job like any other. However, teaching is unique in the sense that it is a commitment to a lifestyle of leading. While some teachers may be unaware of this reality, many others have taken hold of this lifestyle. In the classroom, effective teachers lead their students and any other adults that are present in the room by giving them worthwhile tasks that stretch them to achieve their personal best. In this presentation, I will review projects that were assigned in one of my courses and discuss how they shaped me, a prospective teacher, into becoming a leader inside and outside of the classroom.

ORAL SESSION D — ROOM 204 — 4 P.M.

### **Teaching Writing, Illustrating, and Self-Publishing with Children**

Veronica Jennings

Jacqueline LaRose, faculty mentor

Numerous books have been written on the process of teaching writing to children. This project focused on the process of writing, illustrating, and self-publishing with a group of three boys, including: choosing students, mini-lessons, workshop methods, possible types of illustrations, literary techniques, instructional objectives and strategies. The finished book the children wrote and illustrated, (a hardcover book, professionally printed and bound) will be part of the presentation.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Writing through the Curriculum: Using Writing to Increase Understanding in a K-5 Classroom**

Emily Lundh

Jacqueline LaRose, faculty mentor

Research shows writing helps students learn more effectively. This presentation will focus on how I used research on writing and the Michigan State Standards in Science, Math, English, and Social Studies to create 12 lessons that incorporated writing across the curriculum in various grade levels. The goal is to take these lessons and use them in my classroom one day to help students incorporate writing into all subject areas to increase their understanding and knowledge.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Women and Athletics: Analyzing Media's Image of Female Athletes**

Rebecca Middleton

Christopher Robbins, faculty mentor

For this presentation, I will analyze the different ways that media represents female athletes. I will illustrate this by providing examples of current sports events and analyzing representations of female athletes today. I will use visual and verbal examples of coverage in media. I will also consider how the representation of gender affects the self-image of younger female athletes. The goal of this research presentation is to inform the audience about how female athletics contributes to our society and how the media influences issues of gender equity in sports.

ORAL SESSION A — ROOM 304 — 9:30 A.M.

## **The True Cost of Early Childhood Education**

Danielle Mijnsbergen, Megan Zydeck and Alexa Markley

Martha Baiyee, faculty mentor

For this investigation, we will present an analysis of the intersection of cost, quality, and access of pre-kindergarten childcare. Often families' financial position is the primary and/or only deciding factor in determining care for their children. In some cases, quality and accessibility of care are compromised. Knowing that children benefit greatly from access to a classroom prior to kindergarten, we reviewed current research in the areas of cost and quality and the overlap that results in accessibility or the lack thereof. Implications for an early childhood educator will be discussed.

ORAL SESSION C — ROOM 330 — 2 P.M.

## **Developing Intrinsic Student Motivation: Applying Job Characteristic Theory to First-Grade Writing**

Autumn Premen

Karen Paciorek, faculty mentor

The purpose of this study is to evaluate how intrinsic motivation can be fostered in primary students. This study will apply characteristics of job characteristic theory to work production among primary students. This will be done by observing the students' work without job characteristic theory and again when applying the theory. Finally, the first grade students will look at their projects side-by-side and report their feelings on the completed work. Benefits of this study are creating more effective behavior management systems for teachers and more intrinsically motivated students, which is projected to create a more motivated society. This poster presentation will explain the results.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Bird Is the Word: Planning A Unit All About Birds!**

Bianca Re

Martha Baiyee, faculty mentor

During this poster presentation, I will explain how I created and planned bird related activities for a preschool class which I lead for one day. I researched and designed activities that aligned with the State of Michigan Early Childhood Standards of Quality. I planned and carried out two large group times, choice time activities, snack time, clean up time, small group time, gym time and outdoor time. After extensive planning and preparation, I implemented the activities successfully. I will also discuss implications for future instructions as informed by lessons learned.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

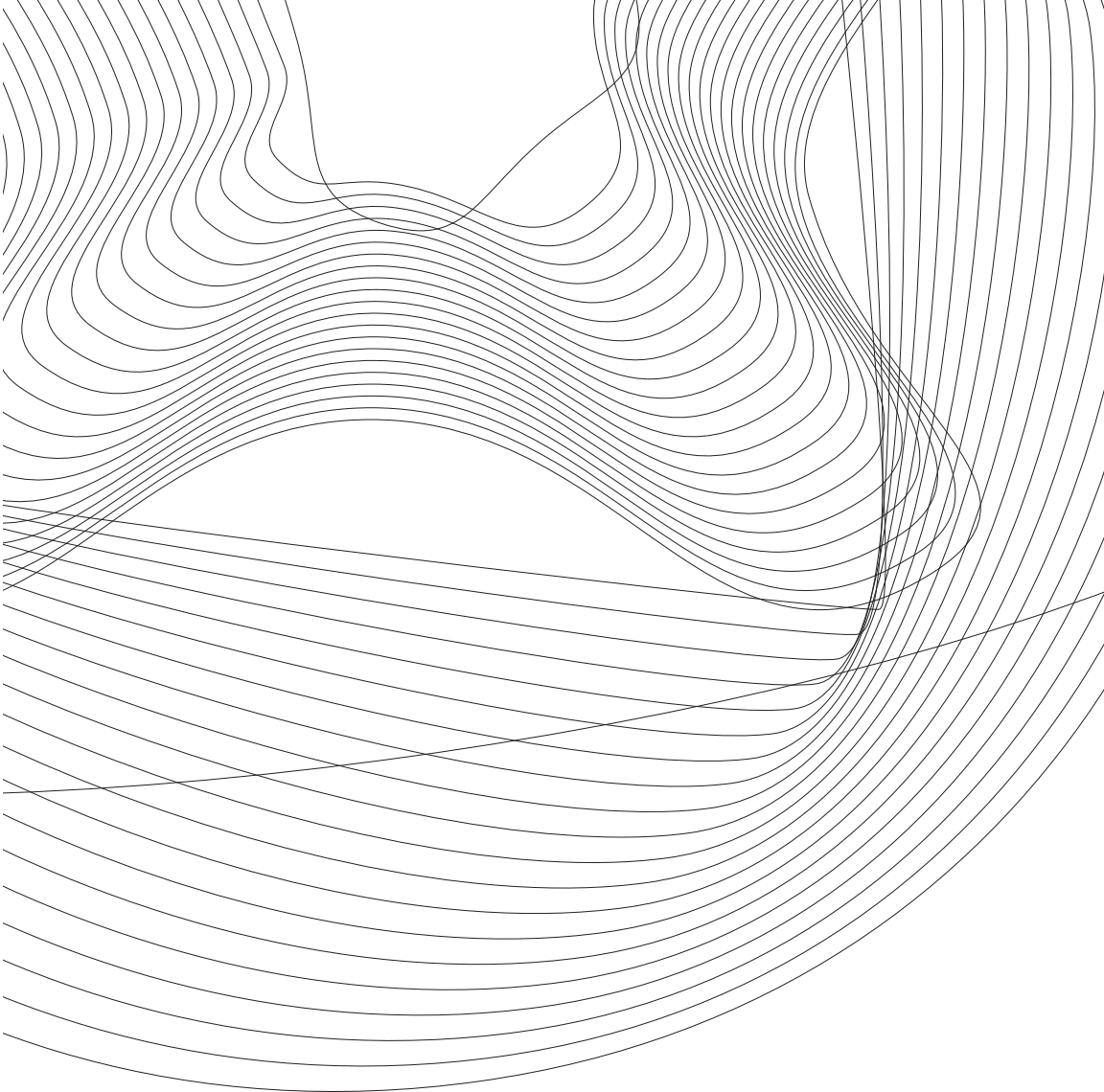
## **From Fatuous to Flourishing Form: An Independent Study of Graphic Novels in Literacy Teaching**

C.J. Snow

Jacqueline LaRose, faculty mentor

Less than a generation ago the graphic novel was relatively unknown; however, beginning around the turn of the century, an explosion of popularity occurred that sent the graphic novel into the mainstream of our culture and into our classrooms. But where did graphic novels come from and why should educators care? This project provides an evolutionary timeline of the graphic novel, while at the same time providing context as to how graphic novels became a legitimate tool for teaching literacy in the classroom. Please note: This presentation is not about comic books, and some content may not be appropriate for young audiences.

ORAL SESSION B — ROOM 330 — 11 A.M.



# COLLEGE OF HEALTH & HUMAN SERVICES

## SCHOOL OF HEALTH PROMOTION & HUMAN PERFORMANCE

### **Comparison of $VO_{2max}$ between Two GPS Watches**

Brandon Bastianelli

Becca Moore, faculty mentor

The purpose of this study was to compare  $VO_{2max}$  from two GPS watches. Twelve subjects (8M, 4F;  $29.86 \pm 9.11$  years old) participated in this study. Subjects completed a 15-minute run outdoors wearing a GPS watch on each wrist (GPS 1 and GPS 2). An independent samples t-test was used to compare  $VO_{2max}$  between the two GPS watches ( $p < 0.05$ ). Four subjects were excluded because one of the GPS watches did not record  $VO_{2max}$ . There was no significant difference between the two GPS watches for  $VO_{2max}$  (GPS 1 48.13 and GPS 2 49.88ml/kg/min). There was a slight variation in  $VO_{2max}$  from the 2 GPS watches, although not significant, most likely due to differences in recorded heart rate and distance.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

### **The Use of Caffeine in Olympic Sports**

Victoria Fields and Chelsey Eatmon

Heather Neff, faculty mentor

Concerns about illegal substances being used in athletics have been a part of academic research for years, and caffeine has emerged as one of the most controversial substances under review. It has been proven to enhance performance and was on the World Anti Doping Agency's list of banned substances from 1984-2004. Our study will measure the effects of caffeine on male Olympic track athletes to examine whether the substance should still be banned. The study will consist of a survey that measures caffeine intake, habituation, and performance trials. We expect to find a significant increase in performance when the athletes consume caffeine.

ORAL SESSION C — ROOM 204 — 2:30 P.M.

### **Self-Care in a Holistic Sense: College Life, Leadership, and Social Life**

Brianna Moore

John Sonnega, faculty mentor

Students who are involved on campus, and who hold leadership positions, have to try to maintain multiple responsibilities, social and personal life all at the same time. With all of the components that the students have under their belt, how will they be able to balance and maintain their sanity? In the college setting, self-care is necessary. There are multiple intersections when it comes to preserving an individual's health and their daily activities. In order to be holistically healthy, the need for equilibrium is vital. This presentation seeks to explicate the importance of self-care in all areas of health, sustainability, the associated issues, and future research and practice.

ORAL SESSION A — ROOM 330 — 9:30 A.M.

## **Maturational Timing and Adolescent Swim Performance**

Sierra Wagner

Andrew Cornett, faculty mentor

The purpose of this study was to determine if maturational timing influences adolescent swim performance (SP). We used age at menarche (AaM) to divide our sample of 170 NCAA women swimmers into early-, average-, and late-maturing groups. We then used the USA Swimming database to quantify SP for each swimmer during early, middle, and late adolescence. SP did not differ between maturational groups in early adolescence, but the late maturers improved more (62.6%) from early to middle adolescence than the average (47.0%) and early (45.2%) maturers. By middle adolescence, SP was significantly better for late maturers than early maturers, and remained so through late adolescence.

ORAL SESSION C — ROOM 204 — 2 P.M.

## **Utilizing 3D Printing and Live Casting to Develop Anatomically Correct Models for Healthcare Class**

Autumn Wright

James Sweet and Frank Fedel, faculty mentors

Utilizing 3D printing and live casting project is a culmination of the integration of medical materials and methods to create anatomically correct models for educational purposes in athletic training (AT) and prosthetics and orthotics (OP) healthcare education labs. The project incorporates the use of MRI imaging data, 3D printing, and life casting. The end-product was utilized for undergraduate and graduate healthcare classes. The project incorporated the ability to use tactile and visual application of the theory after a didactic lesson of a knee and/or shoulder pathology. This was an inter-professional education activity within Health Promotion and Human Performance.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **SCHOOL OF HEALTH SCIENCES**

### **Dining Preferences of International Students at EMU**

Elina Angastinioti

Olivia Ford and Alice Jo Rainville, faculty mentors

Eastern Michigan University has 894 international students from 84 countries. The aim of this study was to examine international students' food preferences and foodservice satisfaction. Data for this study was collected through an online questionnaire. Students were able to offer their suggestions on foods that would meet their preferences and dietary patterns. Some of the foods requested were rice balls, curry and rice, Indian food, Halal foods, and a juice bar. Results will be used to help Dining Services understand and accommodate international students' food preferences.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Collaboration Across the Curriculum: Urban Planning and Public Health**

Lul Gayre

Sarah Walsh, faculty mentor

There is an increasing need for collaboration between urban planners and public health professionals. Yet, it is not clear to what extent universities are preparing students in these disciplines to work together. Our research will shed light on this by evaluating course requirements for both disciplines and look at how they are addressing interprofessional issues such as land development, transportation policies, air/water quality, and community growth issues. The current study explores the availability of interdisciplinary undergraduate courses using document review of course catalogs and published curriculum information.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Telomere Length Changes in Humans on a Mediterranean Diet**

Lindsey Hopkins

Lynne Shetron-Rama, faculty mentor

Telomeres are the ends of DNA strands that protect DNA from damage during cell replication. There are links associated with better health and longer telomeres. Fortunately, a person's lifestyle can alter the lengths of telomeres. In this study, the effect of eating a Mediterranean diet that is high in omega-3-fatty acids on telomere length was investigated through the method of quantitative PCR. The outcomes for this study hope to provide further information between telomere and health correlations, as well as open-up the opportunity for people at Eastern Michigan University and the surrounding community to have their telomere length tested.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Maintaining Health in an Aging Population**

Deshyra Jones

Sarah Walsh and Heather Hutchins-Wiese, faculty mentors

Ypsilanti Meals on Wheels helps to eliminate the struggle of meal preparation for program participants. Providing nutritional meals is the overall goal of the program while improving the health and well-being of the community. The current project is part of a larger study to assess the mental and physical conditions of older adults in the Washtenaw community to further understand the benefits of Meals on Wheels. Preliminary data on cognitive impairment and physical health, measured by hand grip strength, will be presented. We hypothesize that the Meals on Wheels program will help older adults maintain physical and mental health over time.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.



## **Molecular Hydrogen: The Potential for a New Medicine**

Meghan Pendleton

Anahita Mistry and Judith Brooks, faculty mentors

Molecular hydrogen therapy is a novel therapy for diseases associated with oxidative stress. Hydrogen has antioxidant-like effects because it selectively scavenges harmful radicals and activates antioxidant enzymes and protective proteins. Hydrogen is naturally produced by intestinal bacteria, and is relatively safe. There have been numerous articles published on the therapeutic effects of molecular hydrogen, but the exact biochemical mechanisms have yet to be determined. This presentation will review the clinical significance of molecular hydrogen therapy.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Nutritious and Delicious: Greek Yogurt Chicken Salad Sandwiches**

Cassandra Rivard

Alice Jo Rainville, faculty mentor

Chicken salad sandwiches are a lunchtime favorite for many. There are many versions but newer recipes incorporate nutritious ingredients including Greek yogurt instead of mayonnaise; fruits such as apples, grapes, and cranberries; and nuts. Greek yogurt improves the nutrition profile by increasing protein, calcium, and vitamin B12 levels. Apples, grapes, and dried cranberries add fiber, texture, and additional vitamins. Slivered almonds add monounsaturated fats, and 12 vitamins and minerals. Serving chicken salad on whole grain bread with lettuce boosts the nutrient profile. This culinary demonstration will feature nutritious and delicious Greek yogurt chicken salad sandwiches.

ORAL SESSION C — ROOM 352 — 1:30 P.M.

## **A Comparison of Foods Provided by Ypsilanti Meals on Wheels with Foods Consumed**

Gretchen Wiese and Kendra Seagraves

Heather Hutchins-Wiese, faculty mentor

Meals on Wheels (MOW) provides essential nutrition to older homebound adults. Each delivered meal provides 1/3 of the daily nutritional needs. The purpose of this study was to compare food groups provided by MOW to outside food consumption. Eight Ypsilanti MOW participants participated in the study and self reported food intake data. The MOW participants reported usually consuming all foods provided. Food intakes greater than that provided by MOW were for sweets and dairy foods. These findings suggest an opportunity for dietary education for healthy snack options in the homebound older adult population.

ORAL SESSION C — ROOM 352 — 2 P.M.

## SCHOOL OF NURSING

### **Avoiding Heart Failure Readmissions**

Houda Abdallah

Sherry Bumpus, faculty mentor

Heart failure (HF) is an epidemic in the U.S. and is associated with high readmission rates. However, many HF readmissions are not related to HF are inevitable. The purpose of this study is to describe reasons for readmission and guideline adherence of patients readmitted to the hospital after discharge from hospitalization for HF. We performed a retrospective chart audit of HF patients referred to BRIDGE and readmitted within 30 days. More than 20% of readmissions were deemed unrelated to HF and that overall patients and provider guideline adherence was high. Further research is needed to reassess readmission penalties resulting from the PPACA and prevent hospitals from being penalized.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

### **High Blood Pressure and Nursing Students**

Sydnee Begley

Sherry Bumpus, faculty mentor

Nursing students may unknowingly be at risk for developing hypertension. We sought to assess the prevalence of high blood pressure (HBP) among undergraduate nursing students, their risk for hypertension-related health problems, and their perceived stress level. It is known that stress, diet, and lifestyle choices all affect blood pressure, yet scant research exists on HBP among college students. Subjects who participated had their blood pressure taken and completed an online risk factor and perceived stress survey. We found that on average students were normotensive, but many students were at risk or had HBP, and also had high perceived stress. Further research is needed in this population.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

### **Literature Review: Nursing and Health Literacy**

Ashley Compton

Jennifer Avery, faculty mentor

This review looked at and evaluated the nurse's role in health literacy in order to determine different ways in which nurses can help to improve it. The articles reviewed were narrowed to the most recent and most applicable to the purpose of evaluating nurse's involvement. Several common themes discussed in this review are: strategies for improvement, tools for assessing health literacy, outcomes of low health literacy, disparities, use of technology and health literacy of healthcare professionals. Nurses need to be aware of the impact they have on their patient's education and level of health literacy in order to improve them.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Nurses Influence on Nutrition Based Recovery in Substance Use Disorders**

Chelsea L. Noble and Tyler Earl-Capehart  
Vicki L. Washington, faculty mentor

The purpose of this literature review is to examine nurses' roles and the impact of nutrition in recovery of individuals with substance use disorders. Through assessment, nurses identify an individual's health and nutrition status. As a result, the nurses' role in health promotion, education, and interventions can impact an individual's recovery from substance use disorders. This literature review will be conducted through the use of previously published literature and data. The goal of this research is to analyze the available evidence to demonstrate nurses influence on nutrition based recovery in substance use disorders.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Extracorporeal Membrane Oxygenation Costs in Pediatric Populations with Cardiopulmonary Failure**

Brandon Plaza  
Meriam Caboral-Stevens, faculty mentor

The cost of healthcare has skyrocketed in the U.S. over the past decade. The increasing use of technology as part of the care of ill individuals has contributed to this issue. Extracorporeal Membrane Oxygenation (ECMO) is a technology utilized as adjunctive therapy for treatment of cardiorespiratory failure in the pediatric population; thus determining the value of ECMO use is crucial. The purpose of this review of the literature is to gather current information on the cost of ECMO use in pediatrics with cardiopulmonary failure in the U.S. Findings from this review may provide additional information of the current cost of such complex therapy and define areas of future research on its use.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Hearing Loss: The Silent Health Disparity**

Katherine Valek  
D. Marty Raymond III, faculty mentor

The goal of this project is to evaluate the impact of hearing impairment on an individual's healthcare experience. Healthy People 2020 identifies disability as likely to impact a person's "ability to achieve good health." Health literacy emphasizes the individual's ability to understand and appropriately engage healthcare information and services. In addition to reviewing literature, interviews with hearing impaired individuals and those who work in organizations that advocate for the hearing impaired were conducted to examine experiences in healthcare encounters. As appropriate, nursing care recommendations are made to improve healthcare encounters when working with the hearing impaired.

ORAL SESSION C — STUDENT ART GALLERY — 2:30 P.M.

## SCHOOL OF SOCIAL WORK

### **Building Bridges: Connecting Eastern Michigan University and the Ypsilanti Community**

Abigail Allman

Ann Rall, faculty mentor

This presentation aims to understand the complex relationship between Eastern Michigan University (EMU) and Ypsilanti, with specific attention being paid to exploring how accessible EMU's institutional resources are to non-student Ypsilanti residents. The poster explores the perceptions that residents have about EMU and what it provides for their community, with a specific focus on social justice resources and initiatives. This poster considers the value of bringing together voices from both communities to inspire dialogue and to bridge gaps between EMU and Ypsilanti.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

### **An Examination of the Black Honors Student Experience at a Predominantly White Institution**

Brandie Bentley

Yvette Colon, faculty mentor

Nationwide, there is a small percentage of African American/Black students participating in honors programs at the undergraduate college level. Due to the limited representation of students of color within advanced academic programs, the unique stories and experiences of this particular population oftentimes goes overlooked. This qualitative study gives voice to African American/Black honors students and examines their narratives, with specific analysis of the benefits and challenges that shape their overall experience as an honors student of color at Eastern Michigan University.

ORAL SESSION A — ROOM 330 — 9 A.M.

### **Can You Hear Us Now?: Engaging African American Youth Voices in Urban Communities and Schools**

Alyssia Hence

Celeste Hawkins, faculty mentor

This qualitative study explores the impact of the school-to-prison pipeline upon African American youth, with a concentration on those who reside in poverty stricken areas. In addition, this study includes the perspectives of African American youth to explore what should be done in their communities to promote positive educational outcomes. To this end, this presentation examines the factors that contribute to the school-to-prison pipeline in an effort to discover a probable solution within communities to end this epidemic.

ORAL SESSION A — ROOM 350 — 9:30 A.M.

## **A Review of Adolescent Stress**

Scott Kudron

Charles Graham, faculty mentor

Adolescence is a sensitive period of development with many risk factors, including drug use and bullying, which can affect both a person's social and physical wellbeing. Just as drug use can cause cognitive deficits and neural changes, aversive social behaviors, like bullying, in adolescence can also have long term consequences for physical and mental well-being in adulthood. Understanding the impact that experiencing these, and other, stressors during adolescence has on an individual's adult life is vitally important. This presentation examines adolescent stress, focusing on adolescent stressors, the social and neurobiological consequences of those stressors, and coping strategies.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Neighborhood Risk Factors for Obesity In the Detroit Latino Community**

Ivan LeBron

Yvette Colon, faculty mentor

Latinos experience a wide variety of health issues, including disproportionately high rates of obesity. In the United States alone, more than 40% of Latino adults are obese, and almost 23% of Latino children, aged 2-19, suffer from obesity. Latinos rank second only to African Americans in terms of being among those experiencing the highest obesity rates in the United States. This research study explores whether the lack of access to healthy food choices represents a factor impacting obesity rates in the Detroit Latino community. This poster also examines how living in low income areas can affect access to healthy food options.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Barriers to Hospice Care for African American and Latino Populations**

Allante Moon

Stephanie Wladkowski, faculty mentor

Cultural misunderstanding, lack of awareness and mistrust of the healthcare system represent some factors that contribute to the stigma that hospice care has in African American and Latino communities. This poster presentation examines the key factors that contribute to the underutilization of hospice care services. Culturally competent interventions designed to increase the usage of hospice care among these groups is also explored. This poster addresses the role that social work and healthcare professionals can undertake in challenging misperceptions that impede access to end of life care services.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Intersection of Cults and Ritualistic Trafficking in Human Trafficking Cases**

Rita O'Brien

David Manville, faculty mentor

People who are victimized by cults experience significant stress as do survivors of human trafficking. This poster presentation examines the similarity between how cults and traffickers seek out and recruit those who are vulnerable. Specific attention is paid to the role that the use of force, coercion, and threats of violence play in keeping people entrenched in their cult and trafficking situations. The poster also explores the difficulties that people experience in the face of being rescued and attempting to reintegrate into society.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Exploring African American Boys' Resilience in Secondary Education**

Akintunde Oluwadare

Charles Graham, faculty mentor

Despite overwhelming odds, a number of African American boys in public schools show a certain resiliency that incontrovertibly leads to both scholarly and personal success. There is a need for a comprehensive assessment and examination of the attributes and assets that characterize successful African American boys in urban public schools. Utilizing a mixed methods approach, this study analyzed a selected population of academically successful 6th and 12th grade African American boys attending urban public schools. The study offers recommendations for enhancing secondary instructional programming and curriculum development.

ORAL SESSION A — ROOM 350 — 9 A.M.

## **Racial Climate on Campus at Eastern Michigan University**

Akintunde Oluwadare

Marcia Bombyk, faculty mentor

This presentation builds upon the existing literature on the experiences of African American students in post-secondary education. Of specific focus are efforts being undertaken to better meet and accommodate the needs of minority students in higher education in light of racial tension. This presentation focuses on the importance of combating the current racial climate on campus here at Eastern Michigan University. The presenter proposes a three-pronged strategic approach which consists of education, representation and training.

ORAL SESSION A — ROOM 350 — 10 A.M.

## **Poverty, Family, and Home: How Play Affects the Modern Child's Life**

Sarah Pfannes

Jennifer Farley, faculty mentor

Play is essential to the development of every child and sets the foundation for communication and socialization (Davies, 2004). Low-income families and children do not have the same resources as families with higher incomes. This may influence parental stress and the ability for parents to play with their children. This poster explores how poverty impacts play in young children.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **What is my Story?: Techniques that Promote Narrative Identity among Foster Youth**

Ashley Quinn

Jillian Graves, faculty mentor

Narrative identity is the internalized and evolving story of self that a person formulates to make sense of their life and unites the past and future. There is a gap in the literature that explores how foster youth narrative identities are impacted and ways in which child welfare agencies can remain sensitive to this population's identity needs. This poster examines relevant literature, including the use of *PhotoVoice* with foster youth. Exploring various child welfare agency programs in Wayne and Washtenaw counties, this poster aims to understand the need for narrative identity preservation among foster care youth and considers which current programs can be used to fulfill this need.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Community-Based Research in Bluefields, Jamaica: A *PhotoVoice* Study**

Renee Romer

Marilyn Wedenoja, faculty mentor

*PhotoVoice* is a participant-based process where people seek to identify, represent, and strengthen their community through a specific photographic and narrative technique. In social work practice, *PhotoVoice* has three primary goals: 1) to enable people to record, reflect, and interpret their own unique strengths and concerns; 2) to promote sharing of critical dialogue among community members and stakeholders; and 3) to reach key decision and policy makers. Utilizing *PhotoVoice* in the rural community of Bluefields, Jamaica this poster examines key participant findings and implications for practice.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **Grieving When Your Child is Killed by the Police**

Lashawn Solomon

Stephanie Wladkowski, faculty mentor

When a child suddenly dies or is violently killed, parents are “permitted” to feel frustrated, angry and vengeful—all feelings in a “normal” grieving process. However, when one’s child is killed by a police officer, the grieving process is different, and many parents may not get to grieve at all. This presentation examines this unique grieving process. Special consideration is given to the roles that the Black Lives Matter movement and the community play in the grieving process. The impact that the death of 12-year-old Tamir Rice had on his mother’s grief is offered as a case example couched within the Black Lives Matter movement.

ORAL SESSION C — KIVA ROOM — 1:45 P.M.

## **The Negative Effects of Foster Care on Children with Attachment Issues**

Gayle Springer

Angie Mann-Williams, faculty mentor

Attachment theory, according to John Bowlby, focuses on the way in which a parent responds to and interacts with a young child. This is central to attachment given that people, including young children, have the capacity and desire to connect with someone. Creating a secure attachment with a child is crucial in their development. The negative effects seen in children in foster care who have an attachment disorder can include changes in their behavior and their inability to be able to attach to their caregiver. This poster examines various forms of attachment in young children, with specific attention given to attachment issues in children experiencing foster care.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.

## **But What about College Readiness? A Policy Analysis of the No Child Left Behind Act**

Jasmine Stout

Caren L. Putzu, faculty mentor

The No Child Left Behind Act (NCLB) aimed to ensure that all students received a high-quality education. This was to be accomplished by a series of benchmarks and possible sanctions for schools that did not meet goals. However, the reality of the policy was a focus on high-stakes standardized testing. This resulted in a lack of focus on getting students ready to enter post secondary education. Educational policy makers, practitioners and researchers now cite concerns about students’ college readiness. This presentation examines the implementation of NCLB and its impact specifically on college readiness. Finally, changes in NCLB’s 2015 reauthorization and possible impacts are considered.

ORAL SESSION C — ROOM 330 — 1:45 P.M.



## **Socioeconomic Influence on Parenting Styles and Its Manifestation in Child Depression and Anxiety**

Jasmine Stout, Alyssia Hence and Ivan LeBron

Heather Neff, faculty mentor

According to Yoshikawa, Aber, and Beardslee (2012), 20% of children ages 18 and under are living in poverty, and poverty serves as a risk factor for mental, emotional and behavioral disorders in youth. Living in poverty may also be associated with parental depression, parent-child conflict, inconsistent discipline, disorganized attachment and child distress. Using a mixed methods approach, this study explores the way that parenting styles affect the mental health of African American male students between the ages of 17 and 18 who are eligible for free school lunch.

ORAL SESSION B — ROOM 320 — 11:30 A.M.

## **The Evolution of Black Feminism in Society and the Role it has Played in Interpersonal Relationships**

Sina Webster

Dyann Logwood and Yvette Colon, faculty mentors

The emergence of intersectional, Black feminism came about in the mid 1970s when it proved apparent that the second wave of the, overwhelmingly white, women's movement was discriminatory towards women of color and working women. Despite the numerous studies of Black feminism itself, there has yet to be focused research on perceptions held of those individuals who identify as Black feminists. This research focuses on the development of Black feminism in U.S. society, the perceptions held of feminist-identifying Black women by non-feminist identifying Black men, and how these perceptions affect the treatment of the former by the latter.

ORAL SESSION B — ROOM 304 — 11:30 A.M.

## **Comparing the Physical and Psychological Effects of Food Security and Food Insecurity**

Sarah Weissman

Caren L. Putzu, faculty mentor

Although much research exists on how food insecurity impacts one's quality of life, there are no studies to date that have compared the quality of life between food insecure and food secure individuals. This mixed-methods study fills this gap. The online survey assessed quality of life in the areas of performance at school/work, psychological and physical health, and quality of relationships. The survey included closed- and open-ended questions and was analyzed using quantitative and qualitative methods. The results are intended to give a deeper and more personal perspective of what it means to be food insufficient and how food security may impact one's quality of life.

POSTER GROUP 3 — 310A/B — 2:45-4:15 P.M.



# COLLEGE OF TECHNOLOGY

## SCHOOL OF ENGINEERING TECHNOLOGY

### **SAE Baja — Powertrain**

Kolton Alcock, Shannon Schroeder, Stephen Elugbemi and Eboni Thomas  
Paul Kominsky, faculty mentor

For this project, we designed the powertrain subsystem for a SAE Mini Baja vehicle. The subsystem consisted of a 10 horsepower engine, continuously variable transmission, and gear reduction transaxle. These components were to be integrated into the vehicle and produce consistent and reliable power. The system was designed to make the vehicle reach speeds up to 30 mph with quick acceleration, while maintaining structural integrity and minimizing weight and cost. The final vehicle results will be based on cost, design, acceleration, land maneuverability, hill climb, and endurance. The largest aspect for this project will be the overall design of our subsystem.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

### **SAE Baja — Frame**

Kathleen Bowers, Donald Fleitz, Kevin Bancroft and Mikolaj Stoklosa  
Macarthur Stewart, faculty mentor

This study aims to design, develop and fabricate a roll cage for a special kind of four-wheeled vehicle which is similar to an All-Terrain Vehicle (ATV). This cage is designed using the rules in accordance with the BAJA 2016 rulebook given by SAE. A roll cage is the skeleton of an ATV. The roll cage forms the structural base of the vehicle, the base must protect the occupant from instances of impact or rollover. The design and development includes material selection, frame design, and cross section determination. The strength requirements of the roll cage, stress analysis and simulations to test the ATV against failure were verified by using FEA Analysis. After ensuring safety, the design was finalized and the frame was then manufactured.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

### **SAE Baja — Rear Suspension**

Jacob Brancheau, Jacob Frick, Qiheng Zheng and Dylan Siefman  
Macarthur Stewart, faculty mentor

The SAE runs an annual competition to design and race a Baja vehicle. For our project, we designed the rear suspension, which had to be designed to accommodate various terrains. We have a trailing arm suspension type that will allow independent wheel travel on a wide variety of terrains. This has only a few parts necessary to perform and is very strong. The setup will resist harsh impacts while maintaining the necessary level of control.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **Die Cast A1 Fastener Joint Torque Loss**

Robert Green

MacArthur Stewart, faculty mentor

The purpose of this proposal is to investigate the root cause of torque loss in a die cast Al joint with a property class 10 stud and nut assembly. The primary goal of this investigation is to develop the ability to predict the tightening performance of a die cast Al joint for automotive powertrain applications. In this work, a Taguchi orthogonal array will be used to investigate the relative contributions of the factors that impact torque loss. From measurement results, the ANOVA statistical model will be used to compute the relative weighting of each factor and the optimum settings.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **SAE Baja — Front Suspension Design**

Daniel Alejandro Hernandez Pozas, Olatunbosun Ajenifujah, Josh Avery and Nadher Aleid

Paul Kominsky and McArthur Stewart, faculty mentors

The SAE runs an annual competition where you get to design and race a Baja vehicle. For our project we were assigned to design the front suspension system of the Baja vehicle, which requires the car to have a 15-inch turn radius and must absorb the shock impact of the vehicle while it is travelling. The key feature for the front suspension design we are using is an a-arm front suspension system with adjustable shocks.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **SAE Baja — Steering System**

Jordan Matthews, Joshua Little, Steven Hetherson, Joseph Austin and Justin Cichocki

Paul Kominsky, faculty mentor

The SAE runs an annual competition to design and race a Baja vehicle. For our project, we designed the steering subsystem. This system was required to turn the vehicle smoothly. We also designed and cast our own steering wheel.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **JTEKT Automotive North America Electric**

### **Power Steering Friction Reduction**

Megan Pelzel, Tucker Myers and Nikki Kamouneh

Macarthur Stewart, faculty mentor

The objective of this project is to determine design parameters that can be changed to reduce the system friction in a JTEKT North America Corporation's Electric Power Steering system. The current prototype was used to measure the friction budget of the system. Components of the system were removed to determine the amount of friction each contributes to the system. The data showed that the sourced motor and bushing made up over 90% of the system friction. Because these are two essential components of assembly, further research and testing will be conducted to determine other major sources of friction.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

### **SAE Baja — Brake System**

David Sanderson-Gull, Jacob Board, Christopher Arquette, Luis Lopez and Robert Ditsch

Paul Kominsky and McArthur Stewart, faculty mentors

The SAE holds an annual competition to design and race a Baja vehicle. Many groups worked together to complete this project and for our part we were assigned the brake system. The brake system is required to stop the vehicle within a certain distance which will depend on what we deem safe. The brake system is a hydraulic, two component system with a set of brake lines leading to the back and the front wheels.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

### **SAE Baja — Driveline**

Ivan Soepriatna, Matt Monahan, Kevin McLean, Mark LaPan and John Yagerlener

Paul Kominsky and Macarthur Stewart, faculty mentors

The Society of Automotive Engineers (SAE) puts on an annual competition among universities that challenges their vehicle designs in numerous categories. The driveline team was tasked with supplying a suitable system that meets all SAE Baja guidelines. One of the larger challenges we faced was the fitment of powertrain to the rear axles while making sure the axles can clear vertical travel up to eight inches in either direction. Using our computer animated models we found the desired length of shafts needed to meet these requirements. Final physical testing will be conducted upon assembly of the entire vehicle.

POSTER GROUP 1 — 301A/B — 9-10:30 A.M.

## **SCHOOL OF INFORMATION SECURITY & APPLIED COMPUTING**

### **Effects of Technology Advancement on Information Security and Privacy of Individuals with Autism**

Tasfia Bari

Bilquis Ferdousi, faculty mentor

With rapid advancement of technology, people's privacy and information security is in challenge. This is more serious for people with cognitive disabilities such as Autism Spectrum Disorders (ASD). ASD is diagnosed as disorders that may affect an individual's social, communication and cognitive abilities. It is very important to create awareness on how technology is placing disable people in serious risk by compromising their information security and violating privacy. This presentation will focus on the effect of technology on information security that can put people with ASD in danger and how to minimize the threat to their information security and privacy.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Anomaly Detection and Diagnosis of False Data Injection Attacks in a Smart Grid Environment**

Richard Kalvaitis

Samir Tout, faculty mentor

Advances in the modern Smart Grid have enabled two-way communication between smart meters and energy distributors. However, this has left the grid prone to attacks. We will be focusing on a type of attack called False Data Injection, which is carried out by modifying or substituting data sent between the smart meter and the distributor without the knowledge or consent of either party. Such an attack has the capability to alter the electricity demand in an area. This presentation summarizes my involvement in an NSF grant project in which researchers propose a framework to detect such attacks through data analysis and machine learning.

ORAL SESSION D — ROOM 330 — 4 P.M.

## **Comparison Analysis on Network Intrusion Detection Systems**

Jacob Rickerd

James Banfield, faculty mentor

Computers on networks are being breached all the time and hackers are using that access to infect them with downloaded malware. One of the most common ways to defend against hackers in a network is an intrusion detection system. These intrusion detection systems range from free open-source variants to paid enterprise solutions. But does paying for these productions really come with an increase in protection? I have conducted a comparison analysis of common free and paid intrusion detection systems to find out for myself.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **SCHOOL OF TECHNOLOGY & PROFESSIONAL SERVICES MANAGEMENT**

### **Removing the Human Pilot: Automation in Contemporary Aviation**

Christopher Line

Christina Wall, faculty mentor

Aviation has dramatically changed global society through increased range, accessibility, and shortened duration of time traveled over distances and terrains relative to other modes of transportation. Automation assists pilots with complex tasks in contemporary aviation. Once only science-fiction, technology is posed to remove the human pilot entirely from machine. Society, however, does not yet trust technology alone, due to "shared fate" theory, where fatal risk of passengers and pilots mutually exists. Drones are replacing human pilots in applications with minimal potential loss of life, but before society entrusts fully automated aviation models, more research and development is needed.

ORAL SESSION D — ROOM 330 — 3:45 P.M.

## SCHOOL OF VISUAL & BUILT ENVIRONMENTS

### **Mock Shop Virtual Retailing**

Elizabeth Becker

Holly Mosher, faculty mentor

Mock Shop is a virtual retailing design software that allows users to visualize and plan out retail space. This presentation features a visual display of a final project. Along with the 2D display of the mock store, it features a small scale 3D model of the retail space. The 3D model includes: store fixtures, merchandise, décor, lighting, flooring, display windows, fitting rooms, and signage.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

### **Black Girl Magic: African American Fashion Designer Pioneers**

Jasmine Billings

Holly Mosher and Julie Becker, faculty mentors

The inspiration behind this project is the events going on around campus and within the African American community that involve the racist graffiti on campus. This presentation is designed to educate those who are in my major about the role African Americans play in the world of fashion. It is a designer profile on three African American fashion designer pioneers, Elizabeth Keckley, Ann Lowe and Zelda Wynn Valdes. The profile examines their personal life, their career, and the achievements they have contributed to fashion today.

ORAL SESSION B — ROOM 350 — 10:30 A.M.

### **Input Devices for Simulation, Animation, and Gaming**

Joshua Byers and Andrew Adamkowski

Pamela Speelman, faculty mentor

In the United States there has been an emphasis placed on K-12 students to be engaged in authentic learning while utilizing creative thinking and problem solving skills. The STEaM (Science, Technology, Engineering, Art and Mathematics) curriculum is focused on addressing these matters. In this technological age there has been wide implementation of using interactive games as a teaching tool for meeting these learning goals. This presentation will focus on the variety of interactive input devices, which can be designed and developed using all five areas of STEaM. Students will show the different types of hardware input devices and the implementations of these devices through live demonstration.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Interior Design Solution for an 11,000 sq. ft. Corporate Office**

Lauren Clem

Diane Guevara, faculty mentor

The NEXT architecture and interior design firm uses a combination of proper space planning and Steelcase products to enhance collaboration and provide comfortable and ergonomic work settings. Appropriate adjacencies and flexibility in use of public and private spaces play a vital role in creating adequate and multi-functional work environments for every level of employee. Bright colors create an inspiring and energetic atmosphere while providing a means of wayfinding. The 16-foot windows that span the perimeter of the office provide ample natural light and create a more energy-efficient lighting system. The use of greenery throughout the office space enhances oxygen levels, making breathing easier and creating an atmosphere for productivity.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **The CAD Patterning Process**

Lilly DeRamos

Julie Becker and Holly Mosher, faculty mentors

Fashion incorporates many elements from marketing to material construction. One of the leading tools for efficient production in the fashion industry is digital pattern making. The Gerber Computer Aided Design pattern making software (CAD) breaks down the “puzzle pieces” that go into making apparel. The steps, from basic outlines to the cutter machine, will be shared in this display as well as the time the process takes. Three different costumes will be made in an efficient manner using CAD in this project.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **A Custom Costume Business Model**

Lilly DeRamos

Holly Mosher and Julie Becker, faculty mentors

Creation House is a business idea that incorporates mass production with customization features for costumes of pop culture characters. The process of mass customization, which is a combination of mass production and custom features, is vital to this idea and to the efficient process behind it. This presentation will review the consultation process, custom machinery, and marketing techniques used for Creation House.

ORAL SESSION B — ROOM 350 — 10:45 A.M.

## **Comparing Performance Qualities of Different Apparel Products**

Sara Dudzik

Subhas Ghosh, faculty mentor

The modern consumers of textiles have an increasing demand on quality and value of their textile products. Apparel companies face vigorous competition in the global market. This study benefits both the manufacturers and consumers of apparel products and investigates the quality offered by different merchandising companies based on consumer expectations of the products' performance. These performance expectations include price, product durability, aesthetics, comfort, appearance retention, and cost of care. The consumer demands consistent quality in clothing.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.



## **A Study of Traffic Crashes in Ann Arbor, Michigan**

Chelsea Edwards

Suleiman Ashur, faculty mentor

According to the *2015 Michigan Traffic Crash Facts At-a-Glance* the total number of vehicle crashes tallied 297,023 with 96 fatalities during this year. The purpose of this study was to identify the locations in Washtenaw County, specifically Ann Arbor, where most traffic crashes occurred and to identify factors that contributed to the crashes. The results were created with a Data Query tool from *Michigan Traffic Crash Facts* from the year 2015. This research provides valuable information regarding the reasons behind why most traffic accidents occur and provide some early recommendations on countermeasures to minimize the crashes and/or their severity.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **A Residential Design for Clients with ADD: An Evidence Based Approach**

Elizabeth Ehinger

Jiang Lu, faculty mentor

This project focuses on a two-tiered design of a modern ranch style home. The first tier is the overall design of the house for the average client, drawing inspiration from an abstract art piece. The second tier is based on the same design but includes customizations for a client who has ADD. Research evidence will be provided for each design element that is customized to help the user of the space stay focused and reach their full potential on a daily basis.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Farmhouse Style Kitchen**

Brianna Fowler

Jiang Lu, faculty mentor

The Fowler Kitchen is a farmhouse sanctuary with an open concept. My design inspiration was an elegant cohesion of nature and home. This spacious kitchen is meant for large family gatherings and other entertainment. The large windows coupled with tall ceilings make for an inviting, naturally-lit space for everyone to enjoy. The island allows for interaction between homeowner and guests as meals are prepared. All appliances have been arranged to maximize efficiency and ease. The partial walls allow for easy access into the rest of the dwelling, so you can monitor activities within the main living spaces. This kitchen is ready to grow with any family.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **The NEXT Suite Design**

Priya Ghandikota

Jiang Lu, faculty mentor

This project is an office space design for the NEXT corporations architectural firm using Steelcase furniture systems in a 11,000 sq ft space located on the 32nd floor of a building in Los Angeles. The design concept is based off of Eduardo Kobra's new mural in Los Angeles that makes a powerful statement; both visually and contextually. Sustainable design principles are incorporated using translucent privacy walls to take advantage of the daylight. To accommodate the client's need for multifunctional spaces, and comply with the universal design principle of flexibility, height adjustable desks are used in open office spaces and private offices. Open work spaces replace cubicles to enhance collaboration among employees. In addition to the collaborative spaces, employees have the option to work in private offices and reservable rooms in the space.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Building Your Custom Digital Portfolio**

Brendan Kennedy

Jeremy Catarino, faculty mentor

One of the first things a potential employer will see is your digital portfolio. For modern digital artists, the day of physical portfolios has come to an end. The Web can carve out a truly custom space that will entice employers and say something about you as an artist. In my focused research I experimented with the best servers, software, companies and more in an effort to find a solution that is affordable, beautiful, and most importantly, flexible. Artists are hardly ever focused on one medium for the longevity of their careers. Your digital portfolio should emulate your passions and change with you.

ORAL SESSION D — ROOM 330 — 3:30 P.M.

## **Living Green**

Delaney McDaniel and Meredith Benedict

Jiang Lu, faculty mentor

This project is an ADA compliant shelter sustainably designed to support a small family with all basic living needs and the comforts of a home. Reclaimed wood decorates the exterior along with natural stone, a long-lasting metal roof on half of the shelter with solar panels, and a green roof to cover the rest of the shelter. The interior is designed to maximize space and uses bamboo flooring throughout the home. All appliances are chosen to use the least amount of water and maximize energy efficiency. Additional living space is added to the front of the shelter with additional seating, a pergola for shade, and a ramp for accessibility.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

## **Divine Vulpine: A 3D Simulation Application of the Wild and Domesticated Red Fox**

Alyssa Newsome

Jeremy Catarino, faculty mentor

*Vulpes vulpes*, the red fox, has been domesticated for hundreds of years. Through the continued breeding of the red fox in captivity, there has been an explosion of variations in color, size, and temperament. With the rise of interest in domesticated foxes as pets and educational animals, there is a dire need for education of the public on these animals and their history. Fur farming also remains a lucrative industry, an industry engaged in continuous and broad academic research. Aimed at these audiences, this application allows users to view a 3D animated fox, and select its coloration, animation, view, and review the color's genetic breakdown and history.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

## **Lane Hall Renovation**

Anna Pollock, Mary Levensgood, Millicent Murphy and Nicole Borgman

Shinming Shyu, faculty mentor

The concept for the renovation of Lane Hall is to create a transition between the urban and the natural environment. This is often referred to as an urban pocket garden which is a small park accessible to the general public located in an urban area. The goal of this space is to create a tranquil environment where people can escape from the stresses of urban life. Lane Hall also integrates better living through the connection of natural elements with a focus on personal well-being. Inspiration for the urban garden design is gathered from surrounding urban structures, local parks and gardens such as Matthaei Botanical Gardens, Nichols Arboretum, Nickels Arcade, and local Ann Arbor street art.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

### **Lane Hall: Elements**

Cynthia Saadeh, Kimberly Collier and Sara Wutwut  
Shinming Shyu, faculty mentor

The Lane Hall project is a multi-use building that services downtown Ann Arbor. The premise of the design is to combine different elements of a student's life into the building, the way the Rubik's cube combines different colors to come to a final solution. The design concept is modeled after the puzzle and how it challenges the human mind through both its simplicity and complexity. The Lane Hall design utilizes the innovative and intellectual elements of the Rubik's Cube and combines them with similar features from the city of Ann Arbor.

POSTER GROUP 2 — 310A/B — 11-11:45 A.M. & 1:30-2:15 P.M.

### **Green Screen Design and Construction**

Steven Sinn and Jacob Shroat  
James Stein, faculty mentor

The trends of special effects in video gaming are forever growing with time and advances in technology. We designed and built a green screen that allows the Simulation Animation Gaming (SAG) program to keep up with modern technology. This green screen was designed to fit into an existing room with many restrictions. Another major consideration was how shadows tend to affect light reflection and forces imperfections in the special effects. Because of this, the wall and floor corners were curved with no right angle intersections. Safety was included into the design with fire retardant materials. The construction of the green screen was managed and built by student constructors.

DESIGN EXPO EXHIBIT — ROOM 300 — 9 A.M.-4 P.M.

# THANK YOU

Our appreciation is extended to the following Eastern Michigan University offices and individuals who contribute annually to the success of the event:

Melissa Kalfayan and George O'Donovan, graphic design students,  
and Ryan Molloy, Art & Design

John Williams, Christine Deacons and the staff of  
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EMU Catering and Dining Services staff

EMU Public Safety and Parking

EMU Student Center and the Event Planning staff

Intermedia Gallery Group (IGG)

We extend a special thank you to Steinway Piano Gallery of Detroit for their support to provide a Steinway piano for student performances.

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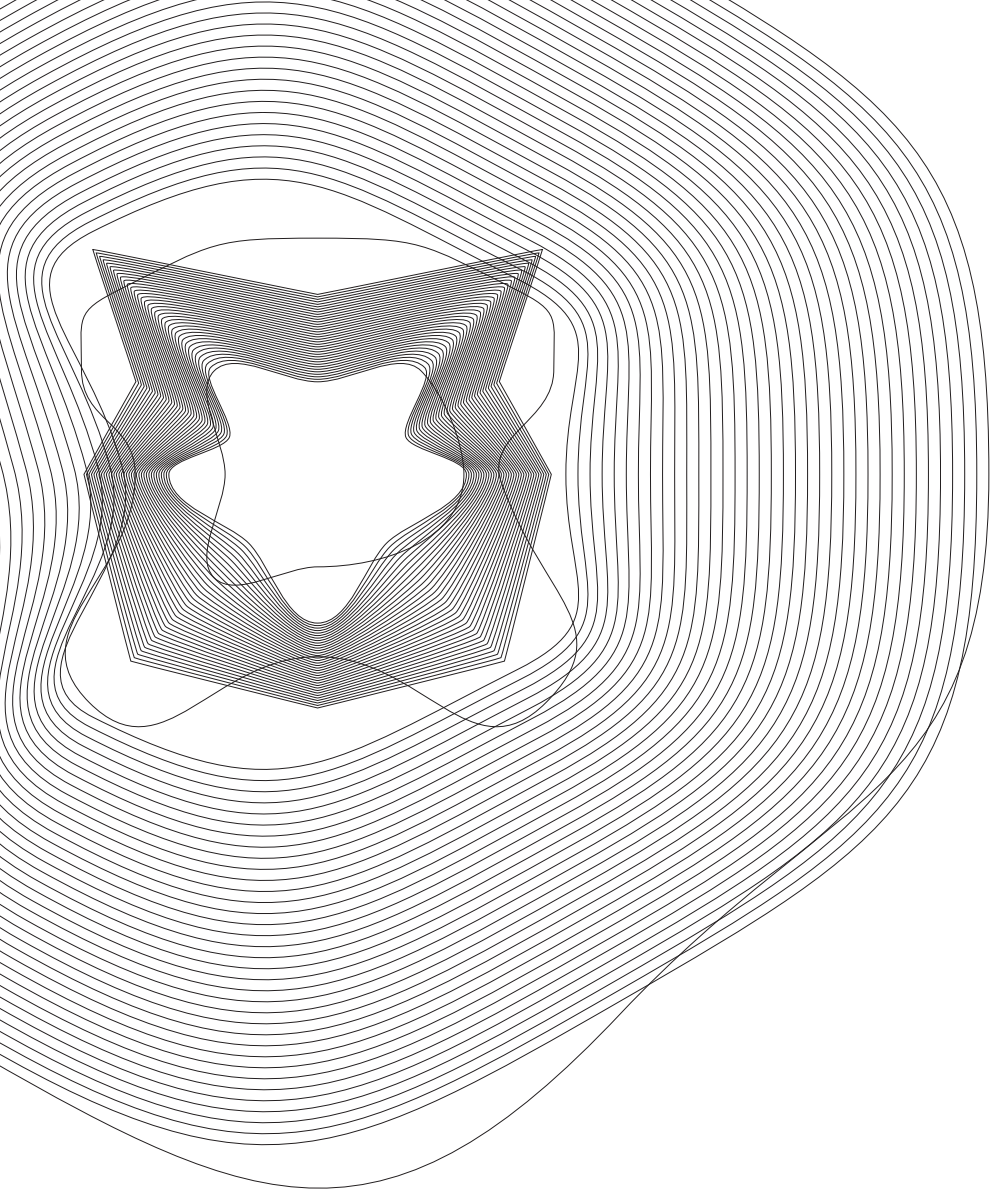
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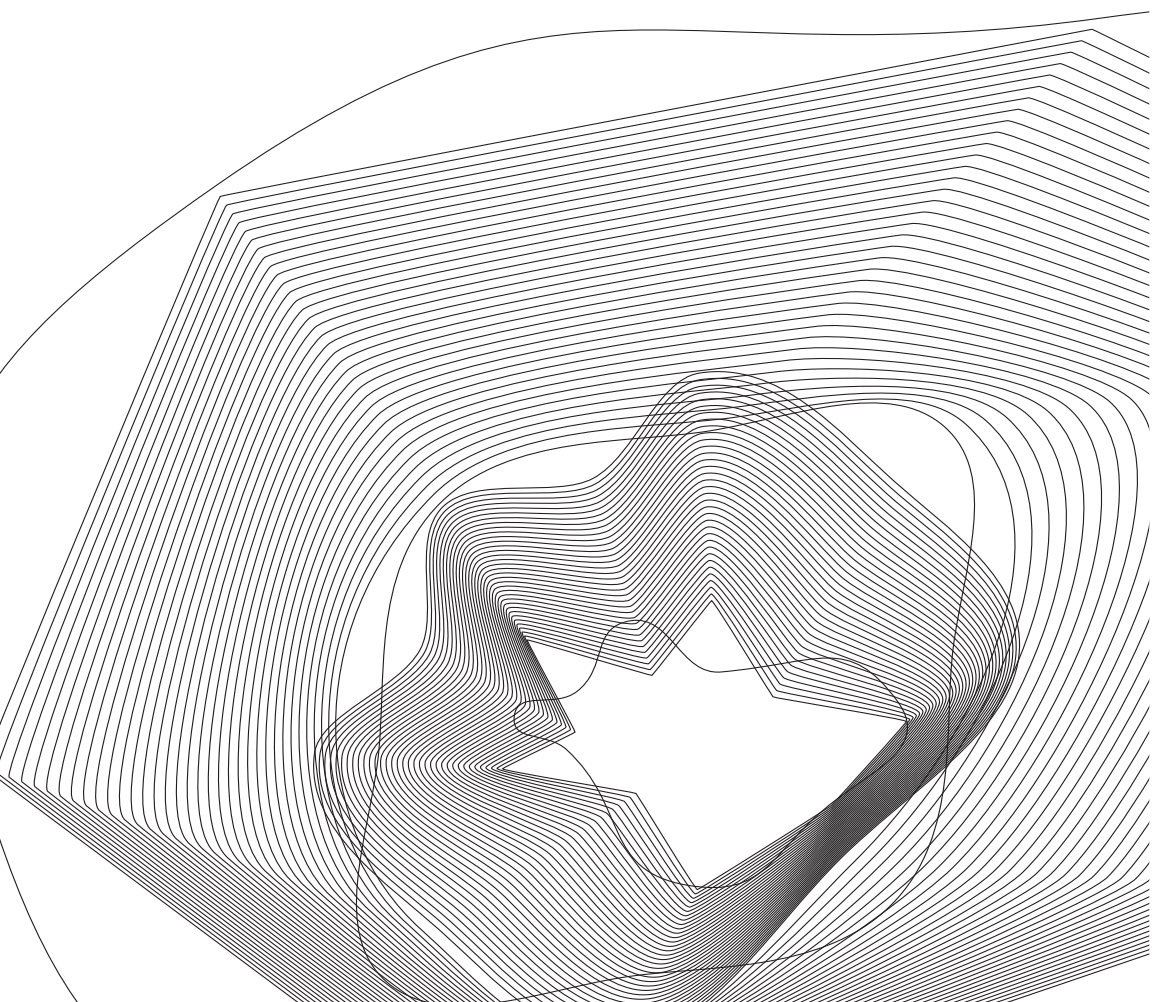
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Lepley, Tommy	Poster Group 1 — 301A/B — 9-10:30 a.m.	60
Lesniak, Dominic	Oral Session D — Room 301 — 3 p.m.	101
Leu, Trevor	Poster Group 1 — 301A/B — 9-10:30 a.m.	113
Levengood, Mary	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	161
Line, Christopher	Oral Session D — Room 330 — 3:45 p.m.	156
Little, Joshua	Poster Group 1 — 301A/B — 9-10:30 a.m.	154
Lockhart, Joshua	Oral Session A — Auditorium — 10 a.m.	99
Loescher, Thomas	Oral Session C — Auditorium — 1:30 p.m.	99
Lohr, Jessica	Oral Session B — Room 301 — 10:30 a.m.	108
Lopez, Luis	Poster Group 1 — 301A/B — 9-10:30 a.m.	155
Lora, Madison	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	38
Loriaux, Glenn	Poster Group 1 — 301A/B — 9-10:30 a.m.	82
Lucido, Caleb	Oral Session B — Auditorium — 10:30 a.m.	100
Lundh, Emily	Poster Group 1 — 301A/B — 9-10:30 a.m.	137
Machasic, Anna	Oral Session C — Student Art Gallery — 1:45 p.m.	77
Magnuson, Joey	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	40
Majcher, Kellie	Oral Session A — Student Art Gallery — 9:30 a.m.	108
Malley, Samantha	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	48
Mann, Julie	Oral Session A — Room 304 — 9:15 a.m.	89
Marchese, Natasha	Poster Group 1 — 301A/B — 9-10:30 a.m.	48
Markley, Alexa	Oral Session C — Room 330 — 2 p.m.	137
Marsh, Alexis	Poster Group 1 — 301A/B — 9-10:30 a.m.	58
Marsh, Kate	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	48
Martinez, Aimee	Oral Session C — Room 352 — 2:15 p.m.	131
Marvinetz, Alicia	Oral Session B — Student Art Gallery — 10:30 a.m.	128
Mathis, Malik	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	67
Matthews, Jordan	Poster Group 1 — 301A/B — 9-10:30 a.m.	154
McCrystal, Chloe	Oral Session C — Auditorium — 2:30 p.m.	77
McDaniel, Delaney	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	160
McGuire, Erin	Oral Session D — Room 352 — 4 p.m.	89
McIntire, Cody	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	114
McLean, Kevin	Poster Group 1 — 301A/B — 9-10:30 a.m.	155
McMullen, Tayler	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	67
McPherson, Derek	Oral Session D — Room 304 — 3:45 p.m.	109
McQuithey, Holly	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	49
McTaggart, Suzy	Oral Session A — Room 320 — 9:15 a.m.	96
Melnik, Abigail	Oral Session D — Room 204 — 3 p.m.	83

Menser, Chloe	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	40
Meo, Dominic	Oral Session B — Room 204 — 10:45 a.m.	78
Meyer, Mitchell	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	58
Middleton, Rebecca	Oral Session A — Room 304 — 9:30 a.m.	137
Mijnsbergen, Danielle	Oral Session C — Room 330 — 2 p.m.	137
Mikovits, Aubrey	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	59
Miller, Ashlin	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	38
Minsker, Abigail	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	54
Mitchell, Kelsey	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	93
Mohamed, Ahmed	Oral Session D — Room 320 — 3:30 p.m.	59
Mohamed, Ahmed	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	59
Mohamed, Hannah	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	49
Monahan, Matt	Poster Group 1 — 301A/B — 9-10:30 a.m.	155
Moon, Allante	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	147
Moore, Brianna	Oral Session A — Room 330 — 9:30 a.m.	140
Moore, Kayla	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	49
Moore, Kristina	Oral Session D — Student Art Gallery — 4 p.m.	67
Moravy-Penchansky, Cassidy	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	40
Morley, Cashmere	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	40
Moroney, Krystal	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	114
Mufarreh, William	Oral Session A — Auditorium — 10 a.m.	99
Muhammad, Safa	Oral Session A — Room 352 — 9:30 a.m.	131
Mullins, Timothy	Oral Session B — Auditorium — 11:15 a.m.	100
Mulroy, Patricia	Oral Session A — Room 320 — 9 a.m.	120
Munganga, Deborah	Oral Session A — Room 352 — 9 a.m.	109
Munganga, Deborah	Oral Session B — Room 301 — 11:15 a.m.	89
Murphy, Colleen	Oral Session C — Room 320 — 2:30 p.m.	75
Murphy, Millicent	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	161
Murphy, Tayler	Poster Group 1 — 301A/B — 9-10:30 a.m.	46
Murray, Cassidy	Poster Group 1 — 301A/B — 9-10:30 a.m.	115
Myers, Rebecca	Oral Session B — Auditorium — 10:45 a.m.	100
Myers, Tucker	Poster Group 1 — 301A/B — 9-10:30 a.m.	154
Neal, Michael	Oral Session C — Room 320 — 2 p.m.	68
Neuvirth, Matthew	Oral Session D — Room 304 — 4 p.m.	83
Newsome, Alyssa	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	161
Nicholas, Grace	Oral Session C — Room 304 — 2 p.m.	83
Nicholson, Andrea	Oral Session D — Room 350 — 3 p.m.	78, 95, 128
Njee, Nyambura	Oral Session B — Room 320 — 10:30 a.m.	37
Noble, Chelsea L.	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	145
Norwood, Ashli	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	97
Nymberg, Kathleen	Oral Session D — Student Art Gallery — 3:45 p.m.	68
Nymberg, Kathleen	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	38
O'Brien, Rita	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	148
O'Chel, Stefaney	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	115
O'Donnell, Delainey	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	50
O'Donovan, George	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	40
O'Dowd, Conor	Oral Session A — Room 301 — 9:15 a.m.	84
Obua, Andre	Oral Session D — Room 320 — 3:15 p.m.	50
Oluwadare, Akintunde	Oral Session A — Room 350 — 10 a.m.	148
Oluwadare, Akintunde	Oral Session A — Room 350 — 9 a.m.	148
Ozog, Tiffany	Oral Session A — Student Art Gallery — 10 a.m.	109
Pankiewicz, Josiah	Oral Session B — Room 330 — 11:30 a.m.	78
Pasini, Madison	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	134
Passarelli, Tessa	Poster Group 1 — 301A/B — 9-10:30 a.m.	50
Pellar-Kosbar, Meara	Oral Session B — Student Art Gallery — 1:45 a.m.	128

Pelzel, Megan	Poster Group 1 — 301A/B — 9-10:30 a.m.	154
Pendleton, Meghan	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	143
Perdomo-Garcia, Maria Paula	Oral Session D — Room 304 — 3 p.m.	109
Petzold, Timothy	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	50
Pfannes, Sarah	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	149
Plaza, Brandon	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	145
Plummer, Emily	Oral Session D — Room 301 — 3:45 p.m.	132
Pollens-Dempsey, Jonah	Poster Group 1 — 301A/B — 9-10:30 a.m.	103
Pollock, Anna	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	161
Porcari, Stephanie	Oral Session C — Student Art Gallery — 2 p.m.	135
Porcari, Stephanie	Oral Session D — Room 204 — 3:30 p.m.	84
Potter, Andrew	Oral Session C — Kiva Room — 1:30 p.m.	110
Powell, Jared	Oral Session D — Room 301 — 3:15 p.m.	103
Powers, Justin	Poster Group 1 — 301A/B — 9-10:30 a.m.	60
Pratt, Alexander	Oral Session B — Auditorium — 10:30 a.m.	100
Premen, Autumn	Poster Group 1 — 301A/B — 9-10:30 a.m.	138
Preston, Bethany	Oral Session B — Room 301 — 11 a.m.	120
Proietti, Joseph	Oral Session B — Room 352 — 10:30 a.m.	47, 58
Prueter, Emily	Oral Session B — Auditorium — 11:30 a.m.	98
Pruitt, Candace	Oral Session D — Auditorium — 3 p.m.	79
Pyles, Katelyn	Oral Session C — Room 301 — 1:45 p.m.	90
Pyles, Katelyn	Oral Session D — Room 352 — 3:30 p.m.	90
Quinn, Ashley	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	149
Raymond, Nicole	Oral Session C — Room 320 — 2:15 p.m.	79
Re, Bianca	Poster Group 1 — 301A/B — 9-10:30 a.m.	138
Reasoner, Sarah	Oral Session A — Room 350 — 9:45 a.m.	110
Reinhardt, Roxanne	Oral Session C — Room 301 — 2 p.m.	120
Renou, Lauren	Oral Session A — Room 330 — 9:45 a.m.	68, 134
Repaska, Michaela	Oral Session C — Room 304 — 1:30 p.m.	90
Repaska, Michaela	Poster Group 1 — 301A/B — 9-10:30 a.m.	60
Resseguie, Amber	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	39
Reynolds, Hannah	Oral Session B — Auditorium — 11:30 a.m.	98
Richardson, Andrew	Poster Group 1 — 301A/B — 9-10:30 a.m.	103
Rickard, Max	Oral Session C — Kiva Room — 2:30 p.m.	121
Rickerd, Jacob	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	156
Rielinger, Amanda	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	38
Rielinger, Amanda	Poster Group 1 — 301A/B — 9-10:30 a.m.	48
Rivard, Cassandra	Oral Session C — Room 352 — 1:30 p.m.	143
Rodriguez, Eli	Oral Session C — Room 350 — 1:30 p.m.	79
Rollins, Alyssa	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	132
Romer, Renee	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	149
Ross, Jordan	Oral Session C — Room 320 — 2:30 p.m.	75
Rousseau, Celeste	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	53
Rudolphment, Gabrielle	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	82
Saadeh, Cynthia	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	162
Salagean, Kory	Oral Session B — Kiva Room — 10:45 a.m.	110
Salyer, Hope	Oral Session C — Room 320 — 2:15 p.m.	79
Sanborn, Denielle	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	38
Sanchez, Nayeli	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	93
Sanderson-Gull, David	Poster Group 1 — 301A/B — 9-10:30 a.m.	155
Saul, Hannah	Oral Session A — Room 204 — 10 a.m.	123
Schiffert, Matthew	Oral Session B — Room 352 — 11 a.m.	84
Schlueter, Scott	Oral Session B — Room 330 — 10:45 a.m.	41
Schmitt, Amber	Poster Group 1 — 301A/B — 9-10:30 a.m.	114
Schroeder, Shannon	Poster Group 1 — 301A/B — 9-10:30 a.m.	153

Schultz, Courtney	Oral Session C — Room 320 — 2:15 p.m.	79
Schutter, Kenny	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	51
Seagraves, Kendra	Oral Session C — Room 352 — 2 p.m.	143
Servin Olivares, Jenipher	Poster Group 1 — 301A/B — 9-10:30 a.m.	115
Shankland, Carli	Poster Group 1 — 301A/B — 9-10:30 a.m.	135
Shearer, Sera	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	69
Shearer, Sera	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	95
Sheppard, Damien	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	58
Sherman, Kala	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	115
Shimu, Tahsina	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	51
Shoukat, Maira	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	61
Shroat, Jacob	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	162
Siefman, Dylan	Poster Group 1 — 301A/B — 9-10:30 a.m.	153
Sinn, Steven	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	162
Smith, Elizabeth	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	115
Smith, Jesse	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	62
Smith, Summer	Oral Session A — Room 352 — 9:45 a.m.	121
Snow, C.J.	Oral Session B — Room 330 — 11 a.m.	138
Soepriatna, Ivan	Poster Group 1 — 301A/B — 9-10:30 a.m.	155
Sohl, Brianna	Oral Session B — Room 330 — 11:15 a.m.	80
Sohl, Brianna	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	61
Solomon, Lashawn	Oral Session C — Kiva Room — 1:45 p.m.	150
Somani, Sruti	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	61
Somerville, Annie	Oral Session A — Room 350 — 9:15 a.m.	111
Somerville, Annie	Oral Session B — Room 304 — 10:30 a.m.	111
Spalding, Christina	Oral Session A — Room 330 — 10 a.m.	71
Spearin, Zachary	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	62
Springer, Gayle	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	150
Stahl, Terrence	Poster Group 1 — 301A/B — 9-10:30 a.m.	62
Stanton, Kali	Oral Session A — Room 204 — 9:15 a.m.	121
Stecker, Amelia	Oral Session A — Room 330 — 9:15 a.m.	80
Steele, Tytiana	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	41
Stephen, Gabrielle	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	38
Stevenson, Micaela	Oral Session A — Room 204 — 9:45 a.m.	124
Stoklosa, Mikolaj	Poster Group 1 — 301A/B — 9-10:30 a.m.	153
Stout, Jasmine	Oral Session B — Room 320 — 11:30 a.m.	151
Stout, Jasmine	Oral Session C — Room 330 — 1:45 p.m.	150
Talbot, Cameron	Poster Group 1 — 301A/B — 9-10:30 a.m.	62
Taylor, Jaylen	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	54
Taylor, Rachel	Oral Session D — Room 320 — 4 p.m.	116
Thacker, William	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	116
Thomas, Eboni	Poster Group 1 — 301A/B — 9-10:30 a.m.	153
Tisder, Simone	Oral Session C — Kiva Room — 2 p.m.	122
Tout, Zeina	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	113
Trace, Madison	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	122
Underwood, Leah	Oral Session A — Room 301 — 9 a.m.	85
Vajda, Roger	Oral Session A — Auditorium — 9:30 a.m.	101
Valdez, Yeliani	Oral Session A — Room 204 — 9 a.m.	122
Valek, Katherine	Oral Session C — Student Art Gallery — 2:30 p.m.	145
van der Waard, Nicholas	Oral Session B — Room 204 — 11 a.m.	80
VanLandingham, Leah	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	130
vanWormer, Eric	Oral Session B — Auditorium — 10:30 a.m.	100
Verge, Donovan	Poster Group 1 — 301A/B — 9-10:30 a.m.	85
Vermeulen, Abigail	Oral Session D — Student Art Gallery — 3 p.m.	91
Visscher, Marri	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	81

Vitale, Autumn	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	41
Vollick, Abigail	Oral Session D — Auditorium — 3:30 p.m.	81
Vought, Ashley	Oral Session B — Kiva Room — 11:30 a.m.	91
Wagner, Richard	Oral Session B — Room 352 — 10:30 a.m.	47, 58
Wagner, Robert	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	56
Wagner, Sierra	Oral Session C — Room 204 — 2 p.m.	141
Walker, Dailah	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	38
Wang, Shengwei	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	69
Wardin, Amanda	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	63
Warnecke, Victoria	Oral Session A — Room 320 — 9:30 a.m.	123
Washington, Tamarra	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	134
Wayne, Adrienne	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	93
Webster, Katelin	Oral Session B — Student Art Gallery — 11:15 a.m.	91
Webster, Sina	Oral Session B — Room 304 — 11:30 a.m.	124, 151
Weinstien, Kara	Oral Session D — Room 204 — 3:45 p.m.	97
Weise, Amanda	Oral Session C — Auditorium — 2 p.m.	81
Weiseman, Clarice	Oral Session B — Auditorium — 10:45 a.m.	100
Weissman, Sarah	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	151
Wiese, Gretchen	Oral Session C — Room 352 — 2 p.m.	143
Wilkerson, Arrie'l	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	82
Willett, Raymond	Oral Session D — Room 301 — 3:30 p.m.	71
Williams, Faith	Oral Session A — Room 204 — 9:30 a.m.	124
Williams, Lauren	Oral Session D — Room 330 — 3:15 p.m.	92
Williamson, Michaela	Oral Session C — Room 330 — 2:30 p.m.	135
Williamson, Sarah	Oral Session C — Room 304 — 1:45 p.m.	85
Wilshaw, Jordan	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	41
Withrow, Katrinna	Oral Session C — Student Art Gallery — 2:15 p.m.	136
Wotring, Jesse	Poster Group 1 — 301A/B — 9-10:30 a.m.	55
Wotring, Jesse	Poster Group 1 — 301A/B — 9-10:30 a.m.	63
Wright, Autumn	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	141
Wurtz, Megan	Oral Session A — Room 301 — 10 a.m.	51
Wurtz, Megan	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	42, 44
Wutwut, Sara	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	162
Yagerlener, John	Poster Group 1 — 301A/B — 9-10:30 a.m.	155
Yasin, Dilann	Poster Group 1 — 301A/B — 9-10:30 a.m.	63
Young, Madeleine	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	116
Yudowin, David	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	102
Zafar, Zaeem	Oral Session C — Room 320 — 1:45 p.m.	132
Zein, Anastasia	Design Expo Exhibit — Room 300 — 9 a.m.-4 p.m.	42
Zheng, Qiheng	Poster Group 1 — 301A/B — 9-10:30 a.m.	153
Zois, Carson	Poster Group 2 — 310A/B — 11-11:45 a.m. & 1:30-2:15 p.m.	63
Zuk, Kelsey	Poster Group 3 — 310A/B — 2:45-4:15 p.m.	52
Zydeck, Megan	Oral Session C — Room 330 — 2 p.m.	137





## Nathan Bomey

Nathan Bomey is a business reporter at *USA TODAY*, where he covers breaking news, the automotive industry and energy. Nathan joined *USA TODAY* at its Washington, D.C. headquarters in 2015. He is the author of *Detroit Resurrected: To Bankruptcy and Back*, published in 2016 by W.W. Norton & Co. This book chronicles the inside story of the largest municipal bankruptcy in U.S. history. Bomey is authoring a second book tentatively titled *The Post-Fact Era: How Truth Died in the Trumpian Age* and Prometheus Books has acquired world rights to this book that is set to publish in 2018.

Bomey is a 2006 graduate of Eastern Michigan University, where he double-majored in political science and journalism, served as managing editor of the *Eastern Echo*, and presented at the 2006 Symposium under the mentorship of Journalism Professor Carol Schlagheck. In addition to his tenure at EMU, he completed a China fellowship program through the East-West Center and earned a certificate from the University of Pennsylvania Wharton School of Business' Seminars for Business Journalists.

During his high school and college careers, Nathan served as a staff writer for his hometown newspaper, *The Saline Reporter*. After graduation, he was a business reporter for six years at the *Ann Arbor Business Review* and *AnnArbor.com* and three years as a reporter for the *Detroit Free Press* where he covered Detroit's bankruptcy and General Motors.

An award-winning journalist and EMU's 2015 Young Alumni Award recipient, Bomey is the 2015 Young Journalist of the Year as named by the Society of Professional Journalists Detroit. He is a two-time winner of Society of American Business Editors and Writers (SABEW) awards and a recipient of *Governing* magazine's Hovey-Harkness Award, honoring the best public service journalism on government issues.

We are pleased to welcome Bomey back to EMU as the 2017 Dennis M. Beagen Keynote Speaker for the 37th Undergraduate Symposium.

