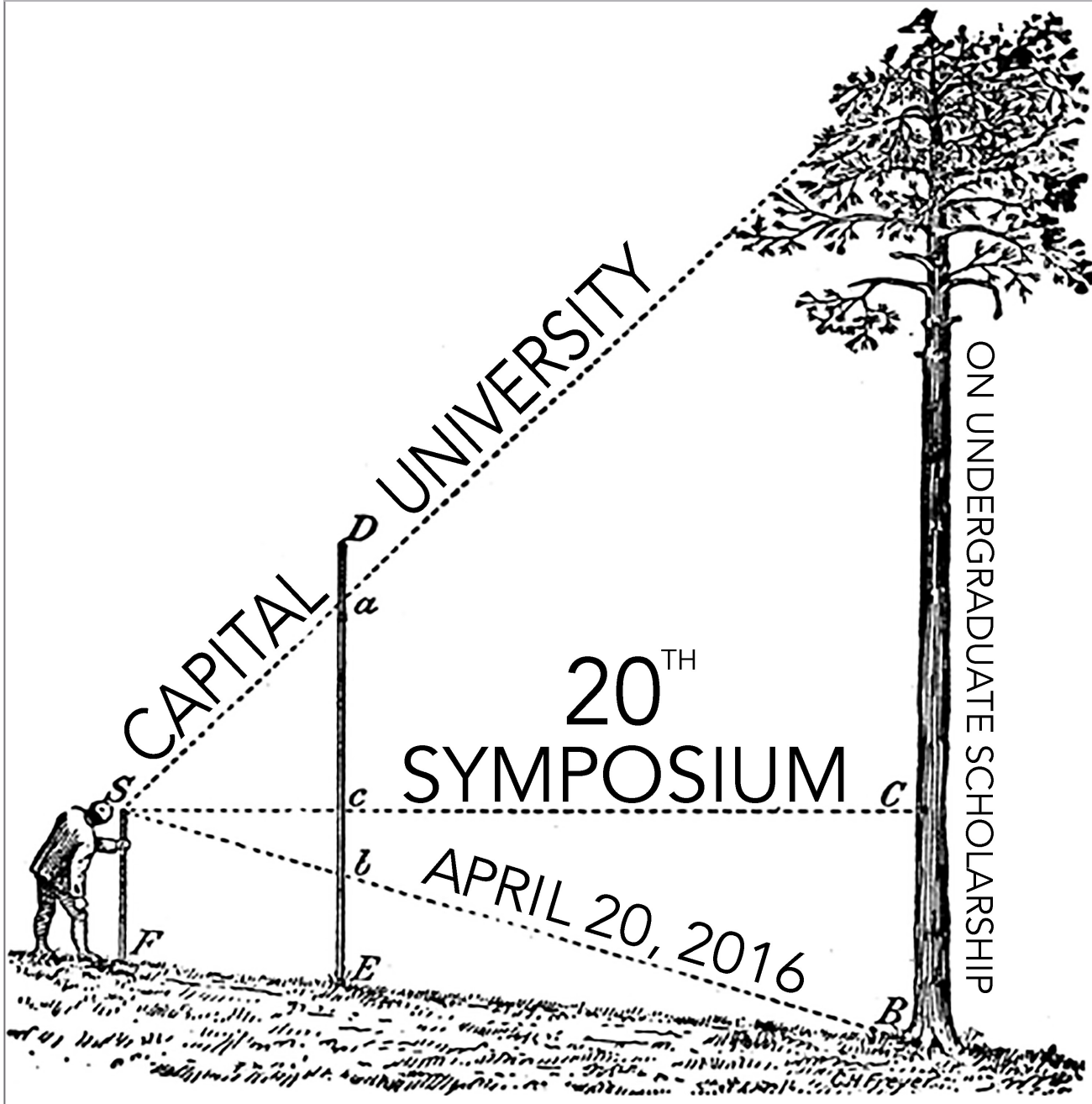


20th SYMPOSIUM ON UNDERGRADUATE SCHOLARSHIP



Capital University

Passion. Curiosity.
Ingenuity. Resolve.

Today, it's all in focus.

Welcome to the 20th Annual Capital University Symposium on Undergraduate Scholarship

Wednesday, April 20, 2016

Keynote Panel

Dr. Kathryn Bell ('97)

Dr. Brian Murphy ('03)

Rachel Yoho ('12)

Tuesday, April 19 // 7:00 p.m.

Mees Hall

Poster Presentations

Wednesday, April 20 // 11:30 a.m. to 1:00 p.m.

Field House, The Capital Center

Oral Presentations

Wednesday, April 20 // 1:30 to 4:00 p.m.

Battelle Hall, Troutman Hall, Blackmore Library and
Ruff Learning Center

Capital University

FROM THE PRESIDENT



Dr. Denvy A. Bowman
President

I am so pleased you have joined us for one of the most celebrated days of our academic year. The Symposium on Undergraduate Scholarship is a point of distinction for our learning community – a showcase event that demonstrates a Capital University education aligned with high impact practices, including scholarship, capstone and immersive experiences and career development initiatives, ideals that are central to the way we teach and learn at Capital University.

As you scan the titles and abstracts on the pages that follow, you will note the breadth of Capital's academic offerings and our emphasis on experiential and cross-disciplinary learning. Even more impressive, as you engage with our student presenters and their faculty mentors, you will experience for yourself their curiosity and passion for exploring, discovering and communicating about their world.

Our goal is to involve students with actively contested questions, empirical observation, cutting-edge technologies, and the sense of excitement that comes from working to answer important questions.

As we look forward to the arrival of President-elect Beth Paul, we have great deal to celebrate. After all, Capital is educating the whole person, while our classrooms and labs are working to make our community and our world better places to live.

Congratulations to those who are presenting their research today. I encourage you to continue exploring your research area, to ask new questions and test new theories. And to the faculty mentors who have committed their time and expertise to make this event possible, I thank you.

Respectfully,

A handwritten signature in black ink that reads "Denvy A. Bowman". The signature is written in a cursive, slightly stylized font.

Denvy A. Bowman, Ph.D.
President



FROM THE PROVOST

Welcome to the 20th Annual Capital University Symposium on Undergraduate Scholarship. This annual event represents the sustained and enduring commitment of the undergraduate faculty to the university's mission – to open dialogue and the free exchange of ideas, to critical thinking and intellectual curiosity, and to the sense of excitement associated with discovery.

Participation in undergraduate scholarship is a distinctive mark of a Capital University education. The recent National Survey of Student Engagement demonstrates the value added from a Capital University education. Compared to students at peer institutions, Capital University undergraduates reported greater student-faculty interaction, more frequent higher-order learning, and more research opportunities with faculty.

The Symposium is an annual celebration of student achievement. Capital University especially is proud to celebrate the 20th annual symposium this year. For two decades, undergraduate students and their faculty mentors have pursued new knowledge, action research, and the creation of art.

On behalf of our entire academic community, I commend the faculty members whose mentorship and teaching have inspired students' empirical studies, theoretical papers and artistic works. To the students participating in the Annual Symposium on Undergraduate Scholarship, I congratulate you on a job well done. Your discoveries today forecast a bright future for the lives of leadership and service you will lead.

Sincerely,
Richard M. Ashbrook, Ph.D.
Provost



FROM THE ACTING DIRECTOR OF HONORS AND UNDERGRADUATE SCHOLARSHIP

It is with greatest pleasure that I welcome all of you to Capital University's 20th Annual Symposium on Undergraduate Scholarship. For the past twenty years, we have gathered as a community to celebrate the hard work and accomplishments of our Capital University students and faculty in their scholarly and creative pursuits. Engagement in these high-impact practices has helped prepare our students for their future careers and lives as citizens of this world by developing essential skills in critical thinking, creative expression, problem-solving, and communication. Findings from a recent survey of Capital alumni reveal that students who present at the symposium develop teamwork, professionalism, and interpersonal skills that they continue to utilize after graduation.

Since the symposium's inception, we have seen tremendous growth in the number of students presenting at the symposium, with 29 students presenting in 1997 to 275 students presenting at this year's annual event. This would not be possible without the significant support and time provided by our dedicated faculty. The generous support from Capital University alumni and friends, through programs such as Summer Scholars and the Boyd Fund for Undergraduate Scholarship, has also helped make these scholarship opportunities possible for our students.

Thank you to all who have supported Capital University's students in their scholarly endeavors over the past twenty years and for your continued support of undergraduate scholarship. And congratulations to those presenting at this year's Symposium on Undergraduate Scholarship. I am proud of all that our students and faculty have accomplished in the past twenty years and am hopeful for a bright future of further discovery, innovation, and creativity.

Sincerely,
Kathryn M. Bell, Ph.D.
Acting Director of Honors and Undergraduate Scholarship

The James L. and E. Marlene Bruning Undergraduate Research Award

In May 2007, James and Marlene Bruning established an endowment to fund a student award to support undergraduate research and scholarly projects at Capital University. The intent of this award is to support high-quality undergraduate research and scholarly presentations at professional academic conferences.

BECCA MOWAD '16

Becca Mowad ('16) is the recipient of the 2016 Bruning Undergraduate Research Award. Her project, "Absolute lymphocyte count in pediatric bone marrow transplants," was conducted under the clinical mentorship of Micah Skeens at Nationwide Children's Hospital and THE faculty mentorship of Dr. Heather Janiszewski Goodin, professor of nursing.

Becca's interests in pediatric oncology and hematology stemmed from the patient population she had the opportunity to spend her summers with at Flying Horse Farms Camp. Her work has been presented at the Midwestern Nurse Research Society Conference in Milwaukee, Wisconsin and will be presented at Capital's 2016 Symposium on Undergraduate Scholarship.

Becca, a nursing major with a minor in psychology, will be graduating with honors in May. While at Capital, she was a sister of Sigma Alpha Beta, a Compass Leader, and a member of Sigma Theta Tau and Order of Omega. After graduation, Becca plans to work at a local hospital in critical care and pursue graduate education to become a nurse practitioner.

Keynote speakers

The honor of this 20th Anniversary of the Symposium on Undergraduate Scholarship at Capital University, and in celebration of the history of undergraduate scholarship at our institution, the 2016 event began with a Keynote Panel, consisting of three Capital alumni, whose professional lives are centered on research in diverse fields.

DR. KATHRYN BELL '97

Interpersonal violence
Trauma
Behavior analysis
Addictions



DR. BRIAN MURPHY '03

Creative writing
American studies
Race
Visual culture



RACHEL YOHO '12

Energy technologies
Science education
Policy
Ph.D. candidate



PRESENTATION SCHEDULE

Poster Presentations
Field House – 11:30 a.m.-1:00 p.m.

Implementation of Dressings in Wound Care
Madeline Aeschbury

Chlorhexidine Gluconate Bathing
Leah Allmandinger

The Importance of Diet on the Immune System
Sara Almalki

Collaboration in Research Between Capital University and a Local High School STEM Academy
Jordan Azzopardi

Who Gets the Bill? A Check on Gender Roles in American Society
Alexandra Bader

Evaluating Learning Outcomes of Religion and Philosophy Alumni
Marisa Bartell

Mislabeling GMO Foods: How Prevalent is it?
Amelia Bartenschlag

Comparative Analysis of Country GDP vs. Production of Genetically Modified Corn Products
Molly Bayer

Rehabilitating an Avulsion Fracture of the Tibia
Jamie Beyer

Competition-Induced Stress Increases Cortisol Levels in Volleyball Players
Shannon Brennan

Nurse Patient Ratios and Patient Outcomes
Jillian Butsko

The Feminist “R”evolution
Ryan Collins

Checking Out: Evaluating the Library Space in Relation to Student Success and Belonging
Jordan Council

Negative Pressure Wound Therapy in Treatment of Diabetic Foot Ulcers
Mary Sarah Cruzan

Injury Preventative Methods for the Ankle
Aaron Dattilo

The Evolution of Informed Consent Laws in the United States
Adam Davis

Students' Perception of Capital University's Honors Capstone Criteria
Lily Davis

Color Association
Brooklynn Dimit

Depression on College Campuses
Meghan Donelson

Prevention of Peanut Allergies in Children
Shaylynn Dornbush

The Effect of Social Media on Body Image
Emily Drake

Impacts of the Zika Virus
Rachel Dumke

Genetically Modified Corn Products in the U.S. vs. Africa, Europe, and South America
Veronica Easler

Social Well-Being Amongst ROTC and Non-ROTC College Students
Evan Eggleston

Chlorohexidine Gluconate Bathing in Critical Care Settings
Beth Emery

Shame's Influence on the Link between Childhood Emotional Abuse and Social Anxiety
Katherine Escobar

Treatment and Rehabilitation of a Femoroacetabular impingement (FAI)
Hanna Ewart

Autoimmune Diseases: A Burden on the Western World's Female Population
Kelsey Fairchild

Mechanisms of Visual Event Duration Discrimination
Kelsey Fairchild

Campus Sustainability
Jesse Faulkner

Effects of Belonging and Student Diversity at Capital
Gabrielle Genovesi

Your Mind in College
Steven Gittins

News Manipulation Prior To the U.S. Invasion of Iraq
Myron Goldsmith

BP Crisis Communication Analysis
Alexandria Goodwin

Self-management of Diabetes Using E-intervention
Cherelle Hagans

GMO: Name Brand Cereals VS Non-Name Brand Cereals
Lala Hamidova

Influence of Habitat Type on White-Footed Mice (*Peromyscus Leucopus*) Across Multiple Years
Tori Hanlin

Life with a Torn Meniscus Michelle Heckman
Title IX: Comparing Private and Public Universities
Chelsea Heppert

First Generation Experience: Examining Programming Targeted at Fostering Self-efficacy, Resilience, and Grit for First-Generation College Students
Anthony Hitch

Sport Fandom and Social Identity
Anthony Hitch

Music Major Sources of Stress
Trisha Howard

Shoulder Complex Stabilization Course
Zach Huffer

Human Trafficking Versus Prostitution: Perception and Understanding
Zach Huffer

Nutcracker Fracture of the Cuboid
Kaylee Hurst

Health Concerns Related to the Consumption of Genetically Modified Foods
Ossiel Ibarra

The Hidden Mentality of the Veil Between Blacks and Whites
Martina Jack

Functional Movement Screening on High School Athletes
Morgan Jenkins

The Conscious Consumer: The Relationship Between Sweatshop Awareness and How University Students Shop

Mackenzie Jensen

Morality & Medicine: Negative consequences of patient lifestyle.

Alexis Juergensen

Who Are The Leaders?

John Kearfott

Using Electronic Screening to Assess the Efficacy of Smoking Intervention and Cessation Efforts

Haley Kelly

The Socioeconomic Impact of Buckeye and Grand Lake's Environmental Issues

Chelsea Kemper

Does Gender Influence Perceptions on Assault?

Taylor King

The Effect of Musical Training on the Ability to Hold Spoken Words, Text, and Images in Working Memory

Mary Klacik

Reducing Asthma Exacerbations in Children

Lindsey LaBarge

Spatial and Temporal Characteristics of Crime in St. Petersburg, Florida, from 2009-2013

Shannon Lamar

The War on Daily Fantasy Sports

Tj Langermeier

Motivation in the Helping Profession of Social Work

Amelia MacKinnon

Absolute Lymphocyte Count and Bone Marrow Transplant Abstract

Becca Mowad

Rehabilitation Protocol of a Rotator Cuff Tear

Kyle Mushill

A Forgotten Cause: Concentrated Poverty in Central Appalachia

Rebecca Neubig

Social Misconceptions of Psychopathy

Jasmine Palmer

Differences in Amphibian Diversity Across Sites Infected with Chytrid Fungus in Central Ohio

Gabrielle Power

Under Pressure

Kahlia Ragland

Crime And Inequality On American Indian Reservations

Jessica Reed

The Perceptions and Prevalence of Intimate Partner Violence Among College Students

Rachel Riggleman

The perception of theft versus reality

Thomas Roberts

Does Capital University's Undergraduate Symposium Make a Difference?

Britteny Rolfes

Learning Outcomes of Political Science Majors

Kristine Ross

Perception: Does Stress Influence The Way You See Art?

Gina Rosta

Recording Traditional Four-Part Hymns for Public Access and Use

Gretchen Rutz

More Exercise, Better Grades?: Analyzing the Correlation Between Exercise Habits and Academic Performance

Gretchen Sauder

An Increasing Prevalence of Celiac Disease – Possible Causes?

Michael Sauder

Genetically Modified Foods: All Natural vs. Organic

Calvin Saunders

Making Today Count: Reflections of Adult Survivors of Childhood Cancer

Ashley Shahan

Capital University Students' Perceptions of Media Bias

Tanya Smith

Is nutrition affected by living situations and lifestyle choices?

Kristen Sollmann

Ethanol Effects on Embryonic Chicken Cells from Different Organs

Cory Spencer

Concussion Prevention Techniques for Adolescents

Melissa Spurbeck

Sesamoid Stress Fractures

Melissa Spurbeck

Read-aloud: Cultural Awareness or Missed Opportunity

Joseph Spurlock

The Coalition Upheavals of the Republican Party

Matthew St. Clair

Accounting for All Students: Effective Teaching Strategies for Students with Autism Spectrum Disorder. Notes from the Field.

Lauren Stefancin

How Can We Improve Students' Writing Skills and Self-Assessment?

Emma Stevens

Student Stress Among Conservatory Students

Valerie Szabo

Deficiencies in Children Linked to Malnutrition

Mollie Tarski and **Lauren Lustrri**

The Effectiveness of Endoscopic Surgeries for Carpal Tunnel and Cubital Tunnel Syndrome

Kelly Taylor

The Stress Response in Intramural College Athletes

Sarah Taynor

Taping Ankles, Saving Lives: The 5 Domains of Athletic Training

Emily Thornton

Medial Meniscectomy Repair & Rehabilitation

Emily Thornton

"When I Kissed the Teacher" – Screenplay Analysis

Matt Torsell

Radial Head Fracture Management and Rehabilitation

Caitlyn Tulloss

The Profession of Athletic Training

Joseph Vassaux

Rehabilitation of a Sports Hernia

Joseph Vassaux

Elbow Ulnar Collateral Ligament (UCL) Reconstruction

Ivan Villaneda

The Implementation of Light Therapy on Adult Patients with Seasonal Affective Disorder (SAD)

Mary Vitullo

Political Slacktivism and Sharing Social Media
Camille Wells

Grit and Academic Behaviors
Allison Wilkie

Exploring the Reform of Regulations Governing Lung Donation in the U.S.
Jesse Wood

Horror Cinema and its relation to trauma and the fear response
Dana Wrubleski

Euthanasia Then and Now, a Trend Toward Pro
Sarah Yarano

Battelle Hall 212
The Hopewell Culture and the Religious Significance of the Newark Earthworks
Arielle Johnson

Learning Center 102
Percent Change: Instruction that Matters
Julia Kunkel

Battelle Hall 144
Vlog Creation and Promotion
Maura O'Donnell

Battelle Hall 123
Communicating Institutional Values Through Branding
Caleb Ray

Battelle Hall 126
Alfred Hitchcock's Leading Ladies: An analysis of the female leads of Hitchcock's classic films
Destiny White

Learning Center 103
John R. Lynch: From Slave to Congressman
Sarah Jones

Battelle Hall 254
American Dream: Allen Ginsberg's "Howl" as a Vehicle of 50s Social Critique and Contemporary Poetic Critique
Troy King

Blackmore Library 110
A Content Analysis of the Portrayal of Mental Illness and Criminality in the News Media
Jessica Lucius

Blackmore Library 144
Radiothon 2016 and Event Coordination
Maura O'Donnell

Blackmore Library 206
Glycogen Stores in Individuals with Cystic Fibrosis-Related Diabetes
Amanda Rowe

Blackmore Library 115
Discover Columbus: Producing a travel documentary for dummies
Joshua Vanderzyden

Battelle Hall 126
Martin Scorsese and the Catholic Influence
Michael Williamson

1:30 p.m. Oral Presentations

Battelle Hall 254
Apartheid in Israel: the People of Palestine
Alex Anderson

Battelle Hall 144
The Problem of Universalizing Justice
Bryce Carafa

Battelle Hall 235
Physiological Responses to Gendered Microaggressions: The Role of Emotional Stability as a Moderator for Biological Responses to Bias
Rachel Chmielewski

Blackmore Library 110
Capital University Students' Knowledge and Opinions on Compensation for Student-Athletes
Nicholas Cote

Blackmore Library 115
The Tax Benefits and Implications of Employer Provided Meals
Mary Court

Blackmore Library 206
Gender Stereotypes and Classroom Environments
Megan Creasap

Learning Center 103
A Glimpse into a Modern Day Slavery
Katherine Goins

Learning Center 202
The Role of Gypsies in "Romancero Gitano"
Suzie Hosea

2:00 p.m. Oral Presentations

Battelle Hall 212
Indisputable Video Evidence: Epistemic Agency in the Age of Black Lives Matter
Nick Bochenek

Learning Center 102
An Evaluation of the Qualities of Effective Re-entry Programs and the Challenges of detained Juveniles
Patrice Cathey

Battelle Hall 103
New Hampshire; How the First in the Nation Primary Impacts Nation and State in the United States
Ryan Dupain

Battelle Hall 123
Understanding Wage Discrepancy from a Human Resources' Perspective
Zach Gerhardt

Battelle Hall 235
An Analysis of the Use of Commedia Dell'arte in French Theater
Margaret Graham

Learning Center 202
Spanish in Action: Performing an Original Play
Suzie Hosea

2:30 p.m. Oral Presentations

Battelle Hall 212
Designed Liberty: A Discussion in Philosophical Cosmology and Human Autonomy
Luke Buchanan

Blackmore Library 110
Fight Back: Stop Sex Assault
Rachel Comi

Battelle Hall 123
Death to the Salesman: A Marxist Critique of Arthur Miller's Death of a Salesman
Cedric Gegel

Learning Center 102
The Use of Anatomical Dolls in Child Sexual Abuse Investigations
Ashlee Hall

Battelle Hall 235
Le mariage de Figaro – The Play and Opera
Craig Jurika

Battelle Hall 254
An Infinite Work of Art: A Possible Solution to Digital Fiction's Flaws
Autumn Laws

Blackmore Library 115
The Origin of Mental Instability Among F. Scott Fitzgerald's Characters
Amando Miggo

Learning Center 103
The Future is Round: Evaluation of Virtual Reality Journalism as a Primary Source
Marissa Pesa

Battelle Hall 144
Making of a feature length documentary on high school football, "BOBCAT 100"
Oliver Rouch

Blackmore Library 206
A Brief History and Future Directions of Organ Transplantation
Amanda Rowe

Learning Center 202
Indigenism in Mario Vargas Llosa's El halblador
Jay Scott

Battelle Hall 103
Updating Comparable Worth
Cassidy Teminsky

Battelle Hall 126
CAPITALize: Communication Audit of Traditional Undergraduate Prospective Student Recruitment – Teacher Education Program at Capital University
Emily Wiseman

3:00 p.m. Oral Presentations

Blackmore Library 110
Physiological Responses to Gendered Microaggressions: The Role of Emotional Stability as a Moderator for Biological Responses to Bias
Rachel Arnold

Battelle Hall 212
Examining the Effects of IPA-3 on Protein Expression, Cell Proliferation, and Cell Migration in MDA-MB-231 and T47D Breast Cancer Cell Lines
Rachel Bender

Battelle Hall 144
Laughatams – A pilot episode or the beginning of a series.
Matt Lewis

Blackmore Library 206
Is the classical music industry dying?
Xin Zhu (Zoe) Ma

Battelle Hall 123
Islamic art, a mathematical approach
Esra Malkoc

Learning Center 202
The uncanny in "Casa Tomada" by Julio Cortazar
Leah Marty

Blackmore Library 115
Genetic Variation in Introns as a Cause of Disease
Abigail Neininger

Battelle Hall 126
A Case study of the Duke University LaCrosse Team Crisis
Meredith Paprone

Learning Center 103
The Enchanting Legacy of Those Ladies in Red: Following the Changing Nature of The Red Detachment of Women
R. Christian Phillips

Battelle Hall 103
The Kibbutzim: Failed Utopia
Austin Reid

Battelle Hall 254
Constructing Moral Minds: Infinite Jest, Postsecularism, and Shaping the Moral Imagination
Kayla Stalaker

3:30 p.m. Oral Presentations

Battelle Hall 103
The Problem of Universalizing Justice
Luke Anderson

Battelle Hall 144
Capstone: AccroFilm Productions – A Business Plan
Carmella App

Blackmore Library 110
Prevalence of Cyber Bullying on a College Campus
Ciarra Davis

Battelle Hall 254
ReCap, Capital's Literary Art Magazine
Autumn Laws

Learning Center 102
Victimization of First Responders: Fire Fighters and Police Officers Under Attack
Jordan Lyle

Battelle Hall 126
Fighting for the Park: Consistency of Keirsian Temperament and Conflicts in "Parks and Recreation"
Kaleigh May

Battelle Hall 123
Mathematics of Juggling
Oscar O'Flaherty

Blackmore Library 206
Pretty good, for a girl: The Unsung Trials of Women in Jazz
Rachel Spencer

Blackmore Library 115
Reflections on Different Parenting Styles in China and the USA
Fei Wang

Learning Center 202
Meaning of Life and the Inevitability of Suicide in Miguel de Unamuno's Niebla
Dominic Zupone

ABSTRACTS

Abstracts are listed in alphabetical order by the first author's name. Poster presentations take place in the Field House of The Capital Center from 11:30 a.m.-1:00 p.m. Oral presentations are from 1:30-4:00 p.m. in Battelle Hall, Blackmore Library and Ruff Learning Center.

Implementation of Dressings in Wound Care

Madeline Aeschbury, Natalie Briggs, Krista Floyd, Alli Hinman

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Mary Burkett, Nursing

Wounds in adult populations can be a serious debilitating and life-threatening health concern. According to Fife and the study of Wound Care Outcomes, \$50 billion per year is spent on wound care. If wounds are not healed properly or quickly it increases the risk for infection and can cause chronic pain for patients. The purpose of this evidence-based practice project was to evaluate the effects of honey dressings on wound healing – with a focus on skin ulcers. The project was conducted using the Iowa Model. The evidence was procured by evaluating existing evidence, which included the implementation of honey dressings, Manuka honey, and honey gel on pressure ulcers and venous leg ulcers in adult patients. The results showed honey to be an excellent dressing choice for debridement, and in the majority of cases decreased healing time. This project offers an innovative wound healing approach that could reduce healing time for wounds, thus reducing treatment costs for patients. The project also allowed the group members to collaborate as a team, explore evidence-based practice and to suggest intervention changes based in current research.

Chlorhexidine Gluconate Bathing

Leah Allmandinger, Kayla Kincaid, Jessica Rousseau

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Mary Burkett, Nursing

Hospital Acquired Infections (HAI) have a high prevalence in hospital settings and cause a significant financial burden for the health care system. In addition, HAIs lead to significant patient morbidity and mortality. The annual direct health care costs are estimated to be \$28.4 to \$33.8 billion dollars. There are an estimated 720,000 HAIs per year resulting in 75,000 deaths. This evidence-based practice project was conducted according to the Melnyk-Fineout-Overholt Model with the purpose of assessing the effect of Chlorhexidine Bathing on HAIs. Evidence was gathered from CINAHL, PubMed and Cochrane, and then appraised. The appraisal process evaluated the quality, relevance and applicability of the body of evidence. The evidence was then synthesized in order to generate a practice recommendation. Based upon this synthesis, there is sufficient evidence to recommend the implementation of Chlorhexidine Bathing in hospitalized adults. This recommendation is a cost-effective and simple enhancement to HAI prevention strategies. This project also looked at related qualitative research in order to influence key change decision-makers in health care organizations.

The Importance of Diet on the Immune System

Sara Almalki, Fatma Almalki, Esraa Almalki

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry L. Cheesman, Biological & Environmental Sciences

The immune system functions as an army for the human body. It can simply be defined as a collective army of white blood cells, bone marrow, and specific organs and tissues. The immune system is responsible for fighting microbes including bacteria, viruses, fungi, and parasites. The immune system also plays a role in destruction of body cells that have mutated or become cancerous. One way the body strengthens the immune system is through mechanisms such as memory cells that are specific for a particular infection. Because nutrition is very crucial in maintaining a strong immune system, various foods such as proteins, vitamins, minerals, and fats need to be maintained in the diet. The current study was designed to look at the role of diet in the maintenance of a healthy immune response. A review of the literature in this area was conducted. This literature review provides examples of foods that best strengthen the immune system.

Apartheid in Israel: the People of Palestine

Alex Anderson

Oral Presentation: Battelle 254 // 1:30 PM

Mentor: Gloria Still, English

In December 2015, I traveled to the West Bank, a fragmented Palestinian Territory within Israel. Through my experience in Palestine, I witnessed many essential human rights violations committed by the Israeli Defense Force against myself and others. The Israeli-Palestinian tension is an internationally muted crisis. In the wake of anti-Semitism before, during and after World War II, it is difficult to be critical of the State of Israel as the shadows of reparation linger. Through E.D. Hirsch's concept of cultural literacy, the collective knowledge and education of a community, I portray my experience in a way worthy of academic acknowledgement of the crisis in Palestine. There is an international call for the divestment of Israel from leading supporters such as the United States and European Union, among many university and colleges who support the government of Israel. Through my collection of qualitative data, interviews, and anecdotal evidence while in Hebron, Palestine, I give specific examples of violations and progress happening in Israel and Palestine. Future research on this topic is needed in the field of psychology, political science, and educational policy as violations of international law continue.

The Problem of Universalizing Justice

Luke Anderson

Oral Presentation: Battelle 103 // 3:30 PM

Mentors: Suzanne M. Marilley, Political Science & Economics; Nate Jackson, Religion & Philosophy

In a modern democracy, the primary goal of our legislation is justice. Yet, lawmakers are often influenced by their own interests, and the

laws they enact are not always fair. To remedy this problem, political philosopher John Rawls proposed that we enter the “veil of ignorance.” In this original position, we know no facts about ourselves, or others, and can make choices based solely on what we deem to be fair. However, just means do not necessitate just outcomes. In this paper I critique Rawls’s Theory of Justice, which has profoundly impacted Anglo-American politics over the past few decades. Through critical analysis, I demonstrate that the veil of ignorance is both flawed and dangerous. The original position brings us to a conception of fairness by means of consensus, and society comes to consider this consensus as the universal form of justice. However, since humans are fallible, there exists the possibility that this consensus will be flawed. In practice, this “universal” is enforced by law, and resistance is punished. Persons unwilling to conform become subject to the tyranny of a false universal, and the most underprivileged and vulnerable members of our society end up suffering.

Capstone: AccroFilm Productions – A Business Plan

Carmella App

Oral Presentation: Battelle 144 // 3:30 PM (Honors Project)

Mentor: Betsy Pike, Communication & Art

For my Capstone project I developed a Business Plan for a fictitious media production house in Columbus, Ohio. I created a professional business plan to incorporate both my Communication and Business Marketing majors in one solid project. To create my business plan I used the standard business plan approach highlighted in *Small Business Management* by Longenecker (2008). Through this research I learned the discipline and motivation needed to create a comprehensive business plan and have a strong beginning if I were to start this company. The company I have created is called AccroFilm Productions, which works with college students to make professional quality media work as well as advertising agencies. This work has contributed to the discipline of communication and business by proposing a media production house with a unique spin to involve collegiate-age students looking to get their feet wet in the industry.

Physiological Responses to Gendered Microaggressions: The Role of Emotional Stability as a Moderator for Biological Responses to Bias

Rachel Arnold

Oral Presentation: Blackmore Library 110 // 3:00 PM (Honors Project)

Mentors: Andrea M. Karkowski, Psychology; Kimberly Heym Biological & Environmental Sciences

Gender microaggressions are brief and commonplace daily verbal, behavioral, and environmental indignities that communicate hostile, derogatory, or negative sexist slights and insults toward women (Nadal, 2010). Recent research has shown a significant negative relationship between experiencing microaggressions and overall mental health, but there is a lack of research focusing on gendered microaggressions and there is little empirical research that shows the biological stress response associated with facing such microaggressions. I used a series of vignettes that follow the taxonomy of gender microaggressions (Sue, 2010) to simulate common experiences with microaggressions while measuring stress biomarkers such as heart rate, salivary cortisol

levels, and Galvanic Skin Response to these put-downs. Variables such as emotional intelligence and emotional stability were measured; I investigated how these emotional traits can moderate the stress response to microaggressions. Participants reported how offensive each vignette was in order to compare the self-reported response with the biological stress response. I predicted that the higher participants score on emotional stability variables, the more controlled their stress response is. Lastly, I predicted that the higher a person’s emotional intelligence, the closer their self-reported response is to their biological response. This research fills a gap in our understanding of microaggressions.

Collaboration in Research Between Capital University and a Local High School STEM Academy

Jordan Azzopardi

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Christine S. Anderson, Biological & Environmental Sciences

Capital University (CU) and nearby Reynoldsburg City School’s Environmental Science, Technology, Engineering and Mathematics (eSTEM) Academy began a partnership in 2013. CU undergraduate students guide eSTEM high school students through rigorous place-based original research projects under the mentorship of CU and eSTEM faculty. High school capstone students design their own research projects focused on wildlife populations or water chemistry. The goal of this project was to gather qualitative data to determine whether learning goals articulated by eSTEM Academy were being met. These goals are focused on refinement of skills such as critical thinking, information literacy, and responsibility through a science inquiry capstone. In December 2015, four eSTEM students were interviewed and asked open-ended questions about their experience. Students responded and commented on the positive impact of the research and mentor experience in relation to these goals. Students indicated gains in applying what they learned in high school science, learning about real world science and college life, confidence, and other gains. Quantitative assessment tools are currently being developed based on these findings to better determine whether this community partnership is meeting its learning goals, which can have far-reaching and long-lasting effects on both CU and eSTEM students.

Who Gets the Bill? A Check on Gender Roles in American Society

Alexandra Bader, Marisa Bartell, Rachel Comi

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Janette McDonald, Psychology

Few research studies provide information about gender roles and social behavior in a restaurant setting. To advance research in this area, we examined who pays the bill in restaurants using both direct observation and attitude surveys. The purpose of our study was to determine whether or not traditional gender roles were perpetuated in a restaurant setting. We hypothesized that in a heterosexual couple, the male partner would receive the bill a majority of the time, in accordance with traditional gender roles. We observed 50 couples in various casual sit-down restaurants and noted bill placement and waiter gender. Our hypothesis was supported, as men paid the bill 64% of the time,

regardless of the gender of the server. However, when people were asked about who should pay for the restaurant bill, a different picture arose. Two Facebook surveys (one anonymous poll and one open-ended questionnaire) revealed three attitudes: bill payment depends on other circumstances, couples should take turns, or whoever asked for the date should pay. These results led us to conclude that people have a more progressive ideology than what they practice, which we attribute to reinforced gender roles in a public context due to social influences.

Evaluating Learning Outcomes of Religion and Philosophy Alumni

Marisa Bartell, Erika Santolalla

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

Employers expect recent college graduates to have good critical-thinking skills. Along with the ability to think critically, college student success often is measured by life satisfaction after graduation. The purpose of this study was to assess the life satisfaction of religion and philosophy alumni from Capital University and to evaluate the success of the religion and philosophy majors for developing critical thinking skills. We administered a survey to Capital University religion and philosophy alumni that included demographic information, a critical-thinking scale, a life-satisfaction scale, and a learning-outcomes scale. Results reveal how religion and philosophy alumni compare to other Capital University alumni for critical thinking and life satisfaction. These findings also provide evidence of the degree to which the student learning outcomes in the religion and philosophy department are being met. Based on the results, we identified strengths within the religion and philosophy department as well as life satisfaction and suggested areas for future improvement.

Mislabeling GMO Foods: How Prevalent is It?

Amelia Bartenschlag, Miriam McCarty, Briana Smith

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

Food corporations label many products as “organic,” “all natural” and “non-GMO.” Some companies appear to mislabel their products; two possible reasons for this are: 1) intentional mislabeling of brands to benefit sales, and 2) cross pollination of GMO into non-GMO fields during the process of growing the plants. For this experiment, corn (*Zea mays*) products such as cereals, snack foods, and corn flour were collected from North America, South America and Europe. This experiment was designed to test if corn products on the market are actually GMO or non-GMO in accordance with their labeling. Standard DNA extraction techniques are being used followed by PCR and electrophoresis. Once PCR is completed on each corn product, the promoter CaMV 35S is observed only in GMO positive samples. The data collected is being cross-referenced to the list of products that are labeled organic and non-GMO. At this point in the research it is clear that there are some foods labeled incorrectly. More samples are being analyzed to determine the overall incidence of mislabeled products.

Comparative Analysis of Country GDP vs. Production of Genetically Modified Corn Products

Molly Bayer, Richard Becker, Wayne Malangone

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

There has been a lot of controversy over genetically modified organisms (GMOs) and how they will impact our future health, economy, and agriculture. Corn (maize) is the most commonly modified agricultural commodity. In this study our team is looking into what corn-based products contain genetically modified corn, and are performing a statistical analysis to look for a correlation between the producing country's GDP and the likelihood of the product containing GMOs. Using standard practices, DNA is extracted from various corn based products and amplified through Polymerase Chain Reaction (PCR) to detect markers for the GMO sequence. Samples are run on a 3% agarose gels, with positive and negative controls, and visualized using ultraviolet light after being stained with ethidium bromide. Currently, samples are being tested to enlarge the research database. Findings will provide consumers and economists with valuable data for further research into the future of GMOs.

Examining the Effects of IPA-3 on Protein Expression, Cell Proliferation, and Cell Migration in MDA-MB-231 and T47D Breast Cancer Cell Lines

Rachel Bender

Oral Presentation: Battelle 212 // 3:00 PM

Mentors: Tracey Arnold Murray, Tristan Browne, Alexandra Fajardo, Chemistry & Biochemistry

Breast cancer accounts for 29% of all new cancers and 15% of cancer-related deaths in women in the United States. Breast cancer cells can be grown in the lab and cells from different types of breast cancer respond differently to different treatments. This research focused on determining the role of a family of proteins called PAKs in various types of breast cancer by using an inhibitor to PAK proteins called IPA-3. Data collected using Western blotting, Trypan Blue exclusion assays, and migration assays, showed that IPA-3 has a greater effect on MDA-MB-231 breast cancer cells than on T47D breast cancer cells. This suggests that PAKs may play a more important role in breast cancer cells that do not express the estrogen, progesterone, or HER2 receptors, than on breast cancer cells that express the receptor for estrogen. Increasing concentrations of IPA-3 reduced the growth, viability, and migratory abilities of MDA-MB-231 cells. IPA-3 also reduced PAK2 and p-PAK expression in MDA-MB-231 cells, further demonstrating the negative effects of the inhibitor. The results of these experiments provide evidence for the use of IPA-3 in the treatment of breast cancers of the type found in MDA-MB-231 breast cancer cell lines.

Rehabilitating an Avulsion Fracture of the Tibia

Jamie Beyer

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sport Science

Avulsion fractures of the Tibia (AFTT) are not common injuries and total less than 1% of all physical injuries. The aim of this literature review is to determine the best rehabilitation method for AFTT injuries while learning more about the injury itself. This injury predominately occurs in males age 13-17 who are near skeletal maturity. AFTT is mostly observed in basketball and high jump while taking off from or landing from a jump. There are often other injuries associated with AFTT that may affect the surgical and rehabilitation process. Most authors recommend an open surgery for reduction and internal fixation of the osseous fragment(s) unless the fracture is not displaced and no other injuries accompany the fracture. After a typical 6 weeks of being immobilized post-operation, rehabilitation is initiated and athletes typically return to sport within 4-12 months post-operation. Rehabilitation includes range of motion exercises, strengthening exercises, and functional exercises. This research is important to find the best rehabilitation techniques for this injury so that other medical professionals, including myself, may be further educated in returning an athlete back to sport as quickly and safely as possible.

Indisputable Video Evidence: Epistemic Agency in the Age of Black Lives Matter

Nick Bochenek

Oral Presentation: Battelle 212 // 2:00 PM

Mentor: Nate Jackson, Religion & Philosophy

In professional sports, where games are subject to various camera angles and an expanding array of instant replay technologies, our timeless love of play and our technological epoch intermingle. As a result, instant replay increasingly arbitrates judgments about rules, which were previously determined by the human perception of referees. As more sporting organizations increase the scale and scope of instant replay, it seems that the role of the referee is becoming increasingly marginalized. In this way, we diminish a referee's epistemic agency, or their ability to know and give testimony. Using this case and its mild demonstration of harm, we can examine important social issues, most notably the question of police brutality and Black Lives Matter. With widespread use of body cameras and cell phone videos, we seek to know the objective truth of the situation. Armed with these new tools in our quest for certainty, we diminish the epistemic agency of police officers and alleged victims in a similar way. Using the ideas of contemporary epistemologist Miranda Fricker, critical analysis, and philosophical argumentation, I explore the cultural dynamic of epistemic agency, and the unjust consequences of our relentless search for "indisputable video evidence."

Competition-Induced Stress Increases Cortisol Levels in Volleyball Players

Shannon Brennan

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentors: Kerry Cheesman, Kimberly Heym, Biological & Environmental Sciences

The correlation between cortisol levels and participation in sports has been studied extensively. This study focused on the role of competition in this relationship. Specifically, its purpose was to assess whether or not increased levels of stress were experienced by intramural volleyball players (n=24) compared to those playing for recreation (n=28) due to elevated levels of competition at the intramural level. Stress was measured by changes in pulse, pupil diameter, and free salivary cortisol levels before and after each game. Stress surveys were completed to assess baseline stress levels. Increased pupil diameter indicated the presence of competition-induced stress in intramural players which was partially confirmed by elevated cortisol levels, even though the elevation was not statistically significant. Increased pulse and pupil diameter in intramural players before the game suggested stress was also experienced in anticipation of the game. Completed stress surveys indicated baseline stress had no correlation with before-game cortisol levels. Overall, the data of this study seemed to suggest increased stress due to a higher level of competition was experienced by intramural players when compared to recreational players. As a result, this study has enhanced our awareness regarding the effects of sports on the body with respect to competition.

Designed Liberty: A Discussion in Philosophical Cosmology and Human Autonomy

Luke Buchanan

Oral Presentation: Battelle 212 // 2:30 PM

Mentors: Nate Jackson, Joy Schroeder, Religion & Philosophy

Philosophy of Cosmology is the study of the nature of the universe. Such philosophy focuses on theories regarding the physical nature of the universe and the implications these universes have for humans. An intelligently designed universe where humans have freedom or, Designed Liberty, facilitates a new conversation in the Philosophy of Cosmology that acts as an alternative to conventional understandings in physics through a rethinking of the traditionally understood Law of Entropy in order to illuminate that the Law of Entropy is the governor of cosmological organization rather than disorganization. Amalgamating this redefined Law of Entropy with Friedrich Nietzsche's doctrine of Eternal Recurrence, supports accepting an intelligently designed cosmos, and with that, the major implications for human autonomy of such a universe. Furthermore, in critically examining theories from experts in their respective disciplines such as Friedrich Nietzsche, Rudolf Claudius, Stephen Hawking, and J.C. Polkinghorne, I find that an intelligently designed universe and human autonomy can be reconciled. For the sake of humanity's understanding of its place in the cosmos, a model of the universe as proposed in Designed Liberty must be adopted if humanity is to understand its own autonomy, as well as its perspective role in the universe.

Nurse Patient Ratios and Patient Outcomes

Jillian Butsko, Rachel Beatty, Britney Bennett, Eleanor Horton

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Mary Burkett, Nursing

Nurse-to-patient ratios are an important and current issue in health care today. Decreased nurse-to-patient ratios have very significant effects on patient outcomes, leading to increases in health care costs and a decrease in quality of care. The purpose of the Evidence Based Practice project was to examine nurse-patient ratios and their effect on quality of care. The project was conducted using a literature review method, examining a multitude of quantitative articles related to the PICOT question. The results of the literature review showed that decreased nurse-to-patient ratios led to increased mortality, length of stay, failure to rescue, medication errors, falls, and hospital acquired infections. This project provided a basis for continued research on the topic of nurse-to-patient ratios, related specifically to nursing-sensitive patient outcomes. The project provided the opportunity to better explore evidence-based research related to current issues that nurses face everyday.

Energy Sustainability in Ohio

Bryce Carafa

Oral Presentation: Battelle Hall 103 // 1:30 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

The importance of using sustainable energy, replacing fossil fuels, has been a slow but important process in achieving energy sustainability to combat climate change. "Sustainable energy, also sometimes called "renewable energy," refers to sources of energy that are naturally occurring and regenerate at a rapid rate" (Salem Press Encyclopedia). The National Security Strategy, issued in February 2015, is clear that climate change is an urgent and growing threat to our national security, contributing to increased natural disasters, refugee flows, and conflicts over basic resources such as food and water (Department of Defense). I investigate State of Ohio initiatives to achieve energy sustainability. To interpret my research, I use policy analysis as well as content analysis. My findings show that Ohio needs to implement more sustainable energy sources such as solar and wind energy. The Public Utilities Commission of Ohio (PUCO) along with energy companies like American Electric Power and FirstEnergy must be persuaded to support renewable energy. This research aims to persuade the PUCO and energy companies to make necessary changes for environmental sustainability.

An Evaluation of the Qualities of Effective Re-entry Programs and the Challenges of Detained Juveniles

Patrice Cathey

Oral Presentation: Learning Center 102 // 2:00 PM

Mentor: Renda Ross, Social Work

According to the Franklin County Re-entry Task Force there are an estimated 1,700 juvenile offenders leaving Ohio's correctional and rehabilitative institutions to return to Columbus and neighboring

communities. Prior research shows that community engagement is important to juvenile offenders who are transitioning back into the community. An effective and strong re-entry program can create an understanding of youth, challenges in their environments, stress, and other factors that may decrease recidivism. Juveniles who enter the Juvenile Justice Systems usually often involved in multiple systems, such as foster care, child welfare, vocational rehabilitation, and mental health collaboration. Allowing these agencies to engage in shared responsibility among these various child-serving institutions can improve educational success and youth engagement (Clark, 2014). Research findings show more effective strategic plans to help juveniles return to the community and reduce recidivism. Providing an in-depth plan for offenders prior to their release that is committed to the needs of the offender as well as the community and family increases the likelihood of success. This systematic review of literature explores the differences and similarities of Ohio and New York juvenile re-entry and preventive programs in order to identify effective ways of to improving re-entry programs for juveniles.

Le dilemme cornélien dans Le Cid (The Cornelian Dilemma in Le Cid)

Emese Chmielewski

Oral Presentation: Battelle 235 // 1:30 PM

Mentor: Marie-Madeline Stey, World Languages & Cultures

In Corneille's *Le Cid*, the protagonist don Rodrigue is faced with a choice between infamy and romance. This selection between two objects that have equal detrimental effects on a character is known as a Cornelian dilemma. To emphasize this dilemma, however, Corneille changes many aspects that characterize French classical theater, including *vraisemblance*: an appearance of the truth. Although Corneille is frequently criticized for this, *Le Cid* remains an influential work today. To better understand the Cornelian dilemma and its violation of *vraisemblance*, a literary analysis of *Le Cid* must be conducted. Next, critics' letters addressed to Corneille are taken into consideration, while researching the life of Rodriguez Díaz del Vivar, the historical figure on which the character don Rodrigue is based. By conducting this research, it becomes obvious that although Corneille is indeed in violation of *vraisemblance*, the Cornelian dilemma becomes more pronounced. It is important to thoroughly understand such a dilemma, because it has influenced many other works of literature. By understanding these devices used in *Le Cid*, readers are able to gain a better appreciation for a work that has caused so much controversy and influence on others. (Presentation to be given in French).

The Feminist "R"evolution

Ryan Collins

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

This thesis connects classic feminist literature from the 1970s such as Allison M. Jaggar's "Feminist Frameworks" (Jaggar, 1978) with current feminist genres in order to show how modern technology globalized feminism. As Jaggar states, "Each society defines what it means to be a woman or man ... they also change greatly from one period to another." I used content analysis to interpret the changes in feminism

over time. I took a qualitative methodical approach by carefully reading previous literature and conducting research on current movements and behavior such as Egypt's ban on the burqa or the call for radical change for gender equality in India. I am also using social media to monitor current movements and growth. Current findings show the waves of feminism moving from a predominantly political movement to grand social transformations. This work enhances feminist and gender studies by providing analysis on current developments.

Fight Back: Stop Sex Assault

Rachel Comi, Sarah Nist, Kelsey Pinckard

Oral Presentation: Blackmore Library 110 // 2:30 PM (Honors Project)

Mentor: Andrea M. Karkowski, Psychology

With sexual assault rates on college campuses on the rise (Breitenbecher, 2000), schools need to do more to prevent sexual assault. While many schools have programs to help survivors, schools struggle with how to effectively teach students not to assault in the first place. Brief, one-session programs have limited effectiveness (Silbaugh, 2015). However, self-defense classes help to empower people with several tools to reduce the risk of rape (Brecklin & Ullman, 2005; Dardis & Gidycz, 2014). The purpose of this research was to assess a 1-credit course on sexual violence, PSYCH 193 Fight Back: Stop Sex Assault, that included self-defense as well as education about rape culture and healthy relationship communication. Students enrolled in the class completed a survey about knowledge and perceptions of sexual assault at the beginning and the end of the course. For a comparison group, students not enrolled in the class completed the same survey online. Results indicate how effective the course was and provide suggestions about what Capital University can do to reduce sexual violence. Effective sexual assault prevention programs provide students with the skills to combat aspects of oppression that perpetuate a culture of sexual violence.

Capital University Students' Knowledge and Opinions on Compensation for Student-Athletes

Nicholas Cote

Oral Presentation: Blackmore Library 110 // 1:30 PM (Honors Project)

Mentors: John Soloninka, Suzanne Marilley, Political Science & Economics

In recent years, there has been increased dialogue concerning the topic of compensating college athletes beyond their athletic scholarships. The purpose of this research project is to outline the NCAA and its amateurism laws, discuss the different arguments about whether or not student-athletes should be paid, and survey Capital University students to help better understand the public's opinion about whether the NCAA is exploiting student-athletes. Haden and Sharp believe additional money should be added into a student-athlete's scholarship package to act as a stipend. Sharp says that this is only fair to the student-athlete because the NCAA is a huge commercial enterprise that uses amateurism and its laws to maximize their own monetary gain. However, Buckstaff disagrees with these two viewpoints, stating that paying student-athletes in today's age will only increase the illegal gambling that already runs rampant in today's college football. After

carefully examining the viewpoints of each scholar, the public student surveys, and mutually advantageous exploitation and consensual exploitation, it was determined that Division I student-athletes deserve a stipend. The NCAA and those responsible for setting university student-athlete policy should discuss creating more fair amateurism laws for the student-athlete.

Checking Out: Evaluating the Library Space in Relation to Student Success and Belonging

Jordan Council, Rachel Dumke, Maryanna Moxley

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

Libraries have long been a resource for students as they pursue their higher education (Kuh & Gonyee, 2003). The library space facilitates a cooperative environment that benefits students in terms of social support and belonging (Crook & Mitchell, 2012). This study was designed to evaluate whether Capital University's Blackmore Library creates an environment that positively influences student academic success, social support, and campus belonging. Focus groups were conducted with students at the university in order to get an in-depth discussion of the library's role in supporting the students' learning. The data was synthesized to reveal trends in the responses of the students. The results indicated the degree to which the library space influences students' feelings of belonging and support. These results will be used by the librarians and various other university officials to improve the conditions and services at the library.

The Tax Benefits and Implications of Employer-Provided Meals

Mary Court

Oral Presentation: Blackmore Library 115 // 1:30 PM (Honors Project)

Mentor: Maggie Gilmore, Business

In the present article, the possible tax benefits and tax implications of employer provided meals were analyzed. Employer-provided meals that satisfy certain conditions qualify as both an exclusion from employee income and as a tax-deductible employee fringe benefit for the employer, reducing the employer's tax liability. There is a discussion of the qualifications necessary to satisfy the Internal Revenue Codification on whether meals are provided for the convenience of the employer and its relationship to employer tax deductibility. If these meals are found to be for the convenience of the employer, the full cost of meals provided is excluded from employee income and is tax deductible, reducing the employer's tax liability. Analysis of large-scale media sources has indicated that the Internal Revenue Service is questioning the tax deductibility of employer-provided meals by businesses, such as Google. This article used a research-based approach to analyze tax authorities and media sources in relation to employer-provided meals, which is a skill utilized primarily by tax professionals. A discussion of employer-provided meals and tax deductibility is necessary for future businesses to determine whether they should provide regular free meals for employees.

Gender Stereotypes and Classroom Environments

Megan Creasap

Oral Presentation: Blackmore Library 206 // 1:30 PM (Honors Project)

Mentor: Sally Creasap, Paige Shalter-Bruening, Education

Confining messages of societal norms, including the concept of gender roles, constantly surround young children. It is vital for those involved in education to determine whether classroom materials display these gender roles, and if so how this affects children's perceptions of societal norms. A qualitative study was performed using action research to further investigate this question. Students between the ages of 3 and 5 from various preschool classrooms around Central Ohio are participating in a series of questions with underlying themes of gender norms. Prior to these interviews, specific data were taken of the interviewed children's classroom materials and environment. This assessment of classroom materials included books, toys, wall posters, as well as observations of student-teacher interaction. The data are compared and observed for correlation. Findings are that children whose learning environments promote gender equality and do not contain materials that inspire the concept of gender norms are less likely to answer with biases about one gender's role vs. the other. Through this research, I have gained insight into how classroom materials may affect my future students as an educator.

Negative Pressure Wound Therapy in Treatment of Diabetic Foot Ulcers

Mary Sarah Cruzan, Elizabeth Andrien, Jessica Ellis, Olga Barsukova

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Mary Burkett, Nursing

Diabetic patients commonly develop foot ulcers due to neurovascular complications of the disease. About 15% of diabetic patients will develop a foot ulcer and about 12-24% of these patients will require amputation. There are multiple treatment methods available that include standard moist wound therapy (SMWT) and negative pressure wound therapy (NPWT). The purpose of this evidence-based practice project was to compare these two treatments. The project was conducted using the Melnyk & Fineout-Overholt Model. Intervention and Meaning PICO questions were formed and appropriate databases were searched to gather the best, current evidence to answer both questions. Best evidence collected from three systematic reviews, two randomized controlled trials, and one literature review were found to support NPWT over SMWT for enhanced wound healing. Additional benefits of NPWT include reduced dressing changes, reduced costs, and improved quality of life. As more people are impacted by diabetes, better treatments are needed. This project appraised research that supports an important treatment for this growing patient population. By conducting this project students, learned that NPWT offers clinical advantages over SMWT and should be considered as initial therapy.

Injury Preventative Methods for the Ankle

Aaron Dattilo, Jamie Beyer, Tahje Brown

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Bonnie Goodwin, Health & Sports Sciences

Our mission is to research the effectiveness of ankle injury preventative methods by comparing the techniques of taping, bracing, and strengthening exercises. A multiple systematic review is used to compare and contrast each injury preventative method to determine the highest success rate and cost effectiveness. Based on the systematic review analysis, it is evident taping is less effective at limiting range of motion in comparison to a bracing technique. Both taping and bracing show an increased functional and mechanical stability; however, the bracing method seems to be more effective through its ability to be readjusted during competition and the inability for the material to stretch or loosen. When comparing taping and bracing to strengthening exercises, ankle rehabilitation provides a high success rate in limiting excessive joint range of motion by providing increased stability through gaining proprioception, strength, and neuromuscular control. We presented the information learned in this study to a group of high school students to assess their pre/post knowledge of each preventative method. In conclusion, all three methods are effective at preventing ankle injuries; however, the information can help the audience can determine which method works best for them.

The Evolution of Informed Consent Laws in the United States

Adam Davis

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

Informed consent is a vital component of mutual trust between a doctor and a patient (Rao, 2008). This study examines the evolution of informed consent in health care in the United States, particularly the formulation of the "living will" in the wake of precedents set in place through court rulings. Cruzan v. Director, a case initiated in Missouri, helped set the path for the living will in the informed consent process. By analyzing these cases, I examine evolution of informed consent in health care, and especially the cultural impacts that have followed these court rulings. Each case analyzed represents the progression of precedent and its impact on informed consent in health care. The main method of data collection is through analysis of primary court documents and scholarly articles. I found that court rulings regarding the use and implementation of informed consent have deep cultural impacts that affect the doctor-patient relationship, as well as health care in general. These findings contribute to the political science discipline by providing a lens into the setting of standards for intentional consent on life and death decisions for citizens in the United States.

Prevalence of Cyber Bullying on a College Campus

Ciarra Davis, Angeline Renner

Oral Presentation: Blackmore Library 110 // 3:30 PM

Mentor: Andrea M. Karkowski, Psychology

“Any participation in bullying increases risk factors such as depression and anxiety, which can be associated with suicidal ideation and/or behaviors in a broad spectrum of youth” (Sabella et al., 2013, 2705). The same holds true for those involved in cyber bullying. This study examined the prevalence and consequence of cyber bullying on a university campus. A survey was distributed to college students to gauge the general population’s opinion and use of social media and incidents of cyber bullying. The survey collected data about whether students were involved in cyber bullying as a victim, a bully, and/or an observer of the bullying. These questions were adapted from the Cyber Victimization and Cyber Bullying Scale (Nga-Man Leung & McBride-Chang, 2013). Black and LGBTQ focus groups were conducted to gain insight into the prevalence and consequence of cyber bullying of minority groups on campus. We report on the prevalence of cyber bullying on a university campus, how these incidents affect students in targeted groups, and how schools can respond. This research also provided students the opportunity to have their voices heard and to begin to change the online culture that has become integral to their lives.

Students’ Perception of Capital University’s Honors Capstone Criteria

Lily Davis, Nikki Lee, Patricia Saye

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentors: Andrea M. Karkowski, Stephanie Gray Wilson, Psychology

Capital University’s Honors Capstone project is required of all honors students. The Capstone project enhances students’ skills and showcases their research efforts. The current study was conducted to examine student perceptions of the clarity of the Honors Capstone criteria that are provided by academic departments. Focus groups were conducted with first-year Honors students (3 men and 11 women) and junior and senior Honors students enrolled in HONS 305 and HONS 405 (1 man and 11 women). We asked questions about the Capstone criteria such as which criteria were the most clear and what academic departments could do to enhance the clarity of their Capstone criteria. Overall, students felt that many academic departments were not clear in what they required of the students. Students preferred criteria that included detailed lists, bullet points, and charts containing detailed information. Subject areas that students consistently rated as most clear were biological sciences and psychology. This information will be beneficial to academic departments of Capital University by encouraging them to review their Capstone criteria and make the criteria more explicit for students. Well-written Capstone criteria will help students both with completing a quality Capstone project and developing skills needed for future jobs.

Color Association

Brooklynn Dimit

Poster Presentation (Honors Project): Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Michael Barsnack, Communication & Art

This study is about color association and how people associate color with emotions. It is based on Plutchik’s Wheel of Emotions (TenHouthen, 1995), which provides a three-dimensional circumplex model and a simplistic two-dimensional circumplex model to illustrate range and intensity of emotions. Subjects were recruited, by invitation, to participate in the study. Pictures of the colors red, blue, yellow, black, white, purple, green and orange were placed on a table for their viewing. The subjects were given a questionnaire that has a list of emotions to associate with each color. Data were collected and analyzed to compare to existing research on color and color theories. This research is intended to make each subject aware of their own color association and validate the importance of color association in art therapy.

Depression on College Campuses

Meghan Donelson

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

Depression in college students is a prevalent issue. An early diagnosis and treatment of depression can reduce symptoms and also prevent the reoccurrence of depressive symptoms. Unfortunately, of the college students who suffer from mental illness, 75% do not get help for mental health problems. The purpose of this research was to determine the effect of medication prescribed by a campus health center for students who sought medical treatment for other issues but were revealed to also score high for depression. Severity of depression in college students (N = 32) was assessed using the Patient Health Questionnaire (PHQ) prior to using medication and then several weeks after being prescribed medication. The results from the PHQ showed that medication reduced the symptoms of depression such as not finding pleasure in activities, feeling tired, issues with eating, feeling bad, and difficulty concentrating. Students who believe they might be experiencing symptoms of depression should consult a mental health professional. This research helps campus health centers to better address the needs of their students through screening for mental illness.

Prevention of Peanut Allergies in Children

Shaylynn Dornbush, Haylee Skukan

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

There are many types of food allergies that one can develop, but one of the most common is a peanut allergy. This allergy can be mild or severe and life-threatening. Having a peanut allergy also increases the chance of allergies toward other legumes such as peas or beans. Peanut allergies are an increasing issue; the percent of children with

the allergy doubled from 0.4% to 0.8% between 1997 and 2002, and by 2010 the numbers had increased to 1.4%. However, studies have been done on the prevention of peanut allergies in pregnant women. These studies show that woman who frequently eat peanuts during pregnancy lower the risk of their child developing a peanut allergy. Woman who are not allergic to peanuts themselves should eat peanuts while pregnant and when breast feeding their baby. By doing so the fetus and the baby are introduced to peanut proteins and the body begins to build a tolerance toward it. These studies do not prove a cause and effect relationship between eating peanuts during pregnancy and lowering the risk of children with a peanut allergy. However, ongoing studies continue to gather evidence that a tolerance can be formed from eating peanuts while pregnant.

The Effect of Social Media on Body Image

Emily Drake, Cameron Caskey, Sydney Braverman, Lily Scheetz

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. Van Horn, Psychology

Previous research has demonstrated a significant correlation between social media usage and body image perception. The ideal beauty standards that have been accepted by society have constantly changed. Over the years, social media usage has become more prevalent and has influenced these constantly changing beauty standards. Due to consistent peer presence and exchange of images, social media has set high standards that people have been trying to obtain. The purpose of this study was to determine different aspects of the relationship between social media and body image. Through a series of survey questions, we asked college students about their perception of their body image and their social media usage habits. The results show an inverse correlation between hours of social media usage and body happiness. As the number of hours spent on social media increased, the overall level of happiness with their body decreased. This study is important because it shows how directly social media usage affects the perception of one's body image, in that people base their self worth on the things that they see online.

Impacts of the Zika Virus

Rachel Dumke, Gabrielle Bartholomew, Carley Rowe

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: John Mersfelder, Biological & Environmental Sciences

The Zika virus was first identified in 1947 in Uganda and was found to have evolved to infect humans by 1954. Recently, South and Central America have been most heavily affected, with Brazil being the epicenter for the outbreak. While not fatal, Zika has been linked to Guillain-Barre syndrome and indirectly linked to microcephaly. Zika is transmitted through sexual contact, saliva, and blood, and no current treatments or vaccines are available. The current study further investigated the effects of the Zika virus through an extensive review of news articles. According to these sources, the main vector of the Zika virus in the Western Hemisphere is the Aedes mosquito. Control of Zika has been focused on reducing mosquito populations in affected areas. Economic constraints and social undercurrents have increased the devastating effects of the outbreak. Preventative measures to

control the mosquito populations are costly, while social and religious undertones limit the availability of contraceptives and contribute to the illegality of abortion in many countries. This knowledge may be used to aid in preventative measures in response to the ramifications of the Zika virus and its impact both socially and medically.

New Hampshire: How the First in the Nation Primary Impacts Nation and State in the United States

Ryan Dupain

Oral Presentation: Battelle Hall 103 // 2:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

New Hampshire is the first presidential primary battleground every four years. For six months before the primary, hopeful candidates enter the living rooms of New Hampshire residents to court their votes. The seeming absurdity of the first in the nation primary is multi-faceted: from the former Secretary of State going into the parlor of a New Hampshire "town-chair" to convince a voter, to the spike of visitors to the state from what has been deemed "political tourism" by National Public Radio (NPR). I show how the New Hampshire primary process, which comes around every four years has dramatically affected the state's culture, and made New Hampshire the most politically aware state in the country. The project is based on my experience of being deeply involved in the 2016 presidential primary, as well as literature on past primaries, such as Cullen (2015), Thompson (1973), and Crouse (1973). The importance of understanding not only the process, but also the effect, of the first in the nation primary is crucial to understanding the American presidential nomination process.

Genetically Modified Corn Products in the U.S. vs. Africa, Europe, and South America

Veronica Easler, Derek Eibon, Eriq Hall

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

With the advancement of technology, the progression of genetically modified (GM) food has drastically changed the way food is produced all over the world, with the United States being the leading producer in genetically modified foods. Our team of researchers was interested in comparing corn flour, meal and baked good products produced in the U.S. to products manufactured outside of the U.S. We collected a variety of corn products produced in the U.S., Africa, Europe, and South America to be tested. Using established lab techniques we extracted DNA from these products and amplified them using Polymerase Chain Reaction (PCR) to select the sequences known to be present in GM products. Samples were run on 3% agarose gels, along with positive and negative controls, and visualized using ultraviolet light after staining with ethidium bromide. Our study further supports that exploring the GM food industry across the world gives further insight into understanding the genetic alterations being conducted on our own food in the U.S.

Social Well-Being Amongst ROTC and Non-ROTC College Students

Evan Eggleston

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kathryn M. Bell, Psychology

Recent research on the prevalence of post-traumatic stress disorder (PTSD) in military personnel returning from duty has sparked interest into investigating factors that might help predict an individual's pre-trauma vulnerability. ROTC cadets preparing to enter the military ranks may be at heightened risk for trauma exposure during military training and combat experiences, and it is important to know characteristics of their pre-trauma functioning that could impact risk for future development of PTSD. To date, no studies have been conducted with ROTC student samples to measure their levels of pre-trauma vulnerability. ROTC and non-ROTC students from Capital University were recruited to participate in an online study assessing pre-trauma vulnerability characteristics, including early trauma exposure, resiliency, social support, and emotion regulation. In total, 600 students were recruited, with eight ROTC students and 96 non-ROTC students completing the survey. Descriptive statistics on the pre-trauma vulnerability measures for each group were calculated. Due to inadequate ROTC sample size, results were inconclusive and group comparative analyses were not able to be made. However, this study is a first step in the direction of investigating pre-trauma vulnerability among ROTC cadets, which may be beneficial to military screening of recruits and PTSD prevention programming.

Chlorohexidine Gluconate Bathing in Critical Care Settings

Beth Emery, Becca Mowad, Marjie Searcy, Lacy Patrick

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Mary Burkett, Nursing

Chlorhexidine Gluconate (CHG) baths using wipes, soap, and sponges have become much more common in hospital critical-care settings around the world, replacing the previous wash basins and washcloths for patient baths. CHG baths have resulted in less overall hospital acquired infections, but increased confusion and inconsistencies amongst patient families. The purpose of this evidence-based practice project was to evaluate the effect of CHG baths on infections and communication between health care staff and families of patients in the critical-care setting. The project was conducted using a literature review of qualitative and quantitative studies. The results indicate to the investigators that a practice change to daily CHG bathing is recommended. This project provides a better understanding of the importance of communication between the health care team and the patient families, as well as the importance of a daily bathing protocol utilizing CHG to lower the rates of overall infection and colonization. This project provided an opportunity for the investigators to practice the process of evidence-based practice by employing a literature review.

Shame's Influence on the Link between Childhood Emotional Abuse and Social Anxiety

Katherine Escobar

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kathryn M. Bell, Psychology

Various studies have indicated a link between childhood sexual abuse and social anxiety symptoms, but less is known about the relationship between social anxiety and childhood emotional abuse (CEA). Preliminary research suggests that CEA plays a greater role in the development of social anxiety than childhood physical or sexual abuse does (Kuo, Goldin, et al., 2010). No known studies have investigated whether or not shame accounts for the relationship between CEA and social anxiety symptoms. Therefore, the purpose of this study was to examine internalized shame as a potential mediator of the relationship between CEA and social anxiety symptoms. A sample of 215 men and women recruited from Amazon's Mechanical Turk completed measures assessing childhood physical, sexual, and emotional abuse, internalized shame, and social anxiety symptoms. The final model with all significant paths included accounted for 67% of the total variance in social anxiety symptoms. Findings suggest that internalized shame associated with CEA contributes significantly to the development of social anxiety symptoms. Results may contribute to the development of interventions targeting shame related to CEA experiences in an effort to address social anxiety symptoms.

Treatment and Rehabilitation of a Femoroacetabular Impingement (FAI)

Hanna Ewart

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sport Science

One in four people have a femoroacetabular impingement (FAI), but many do not show symptoms of pain and have osteoarthritis. Femoroacetabular impingement is common in sports which involve forced hip flexion, adduction, and internal rotation. Femoroacetabular impingement can lead to a labral tear in the hip causing impaired hip mobility and strength. In this literature review, surgical and treatment techniques were examined and compared to determine the most effective rehabilitation to return a patient back to sport following labrum repair. Following extensive rehabilitation for about six months to a year, the patient is released to sport once they demonstrate full strength, range of motion, and ability to perform sport specific activities. Research in FAI is ongoing to determine the best procedures and treatment approaches to enhance healing and return to sport, but it is important to use evidence-based treatments.

Autoimmune Diseases: A Burden on the Western World's Female Population

Kelsey Fairchild, Anthony Lopez

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

Autoimmune diseases are defined by the U.S. National Library of Medicine as "when the body's immune system attacks and destroys healthy body tissue by mistake." Over 80 different types of

autoimmune diseases have been discovered, affecting about 50 million American citizens. Of these citizens, 75% are within the female population, concluding a 3-to-1 ratio of occurrence. This notable difference was seen with Systemic Lupus Erythematosus and Multiple Sclerosis over 100 years ago, leading researchers to turn their attention to gender priority in autoimmunity and related diseases. The scientific reasoning behind this variance relates to the amount of hormones produced by the female body during puberty, specifically estrogen. The prevalence in the female population can be seen in much of Western culture, including England. In the current study we are analyzing research reports on gender and autoimmunity while sorting through the more common autoimmune diseases found in Western societies. The future of understanding and treating autoimmune diseases will be dependent on early symptom diagnosis and case-by-case management of symptoms, along with a comprehension of susceptible genes and environmental factors.

Mechanisms of Visual Event Duration Discrimination

Kelsey Fairchild

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. Van Horn, Psychology

Perceptual learning causes practice-induced plasticity in the brain well after the critical period in development. This is known due to the unique patterns of specificity observed in visual learning and memory. For example, learned improvement in one part of the visual field will often transfer only partially to other areas of the retina or to other stimuli. Tasks involving time perception reveal dissociations between sensory modality and task, suggesting distributed internal clocks rather than a central time processor. The current study used the perception of time, a second-order stimulus property, to probe the specificity of visual perception.

Campus Sustainability

Jesse Faulkner, Cody Lannom, Nick Wolfe, Jimmy Ahern

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

Knowledge of the environment has psychological and academic benefits. Research suggests that individuals who are environmentally aware are more prone to being environmentally responsible and to act in ways that decrease environmental concerns. The purpose of this study was to collect data on the relationship between environmental knowledge and attitudes toward campus sustainability. Capital University students, faculty, and staff were surveyed. Findings indicate the extent to which environmental knowledge and campus sustainability are related and how this relationship differs across campus constituencies (i.e., students, faculty, staff). This research was important because it can be used to guide campus sustainability efforts, particularly sustainability efforts that result in cost savings for the university.

Death to the Salesman: A Marxist Critique of Arthur Miller's Death of a Salesman

Cedric Gegel

Oral Presentation: Battelle 123 // 2:30 PM

Mentor: Dan Heaton, Communication & Art

Arthur Miller's *Death of a Salesman* is widely considered to be one of the great American dramas. Several studies have examined the Jewish roots of the play as well as Miller's reasons for writing it. I analyzed the text from a Marxist perspective as defined by Sellnow in *The Rhetorical Power of Popular Culture*. I found that Arthur Miller set a new standard for tragedy with *Death of a Salesman* by recognizing the plight of lower- and middle-class Americans, essentially contesting Aristotle's notion about the tragic hero. These findings help to recontextualize what *Death of a Salesman* means to theater history.

Effects of Belonging and Student Diversity at Capital

Gabrielle Genovesi, Jamie Jasper, Camille Wells, and Niamani Mayes

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Almar Walter, Psychology

The United States is in the midst of a demographic shift. Statistics indicate that the current majority soon will become the minority, which will lead to changes in the structure of employment and educational institutions alike. As one example of how educational institutions need to change, previous research shows that students who feel more connected to their college experiences have more success in college and in future employment, yet college students of color still experience discrimination on campus which leads to a decreased sense of belonging and thus lower achievement. This means that colleges and universities need to find ways to promote a sense of belonging for all students so that all students can have greater success. The purpose of our project was to examine student perceptions of and experiences with diversity at Capital University. We conducted three focus groups on campus. Our findings indicated ways to improve diversity experiences and sense of belonging on campus. Our research can inform strategic initiatives of Capital University's Office of Diversity and Inclusion.

Understanding Wage Discrepancy from a Human Resource' Perspective

Zach Gerhardt

Oral Presentation: Battelle 123 // 2:00 PM

Mentor: Lois Foreman-Wernet, Communication & Art

Everyone wants to be fairly compensated for their work and effort, but sometimes we are not. Why do some people make more money for doing the same work? Past research predominantly says it is because of discrimination. By using the sense-making methodology and interviewing Human Resources professionals, I looked for reasons for differences in pay other than gender discrimination. After analyzing prior research and information, I found numerous reasons for wage discrepancy, including pressures and stress that affect the selection process, hierarchical struggles, and organizational changes taking place in the company. Human resources is the best way to understand differences in pay because human resources is involved with every

department in an organization and administers the pay of each employee. This study provides a starting point for future research that aims to understand and prevent wage discrepancy in its entirety.

Your Mind in College

Steven Gittins, Zachary Beck, Jacob Martin

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. VanHorn, Psychology

We live in a society where mental illnesses are on the rise in young adults. In this same society, a good performance in college resulting with a college degree is now more important than ever in the workforce and a great tool to acquire a professional job and financial success. The question then becomes, how are these students that have these diseases performing relative to those who do not? In this study, a survey was administered to find some effects of anxiety, depression, and post-traumatic stress disorder on students. We investigated the correlation between these three mental illnesses and their effects on the students in the following ways: grades, class performance, and social involvement on a university campus. We discovered that when students report having PTSD, anxiety, or depression, they also report less satisfaction on campus and less campus involvement. With more and more students having symptoms of these illnesses, finding a direct correlation between symptoms and performance is important not only for confirming the significance of the diseases, but is also important for universities to identify at-risk students and better equip the schools to help them.

A Glimpse into Modern Day Slavery

Katherine Goins

Oral Presentation: Learning Center 103 // 1:30 PM

Mentor: Andrew Carlson, History

I examined the problem of human trafficking in Ohio. The primary question I propose to research is the geographic origin of the victims. I have also studied how this problem might be addressed, including how greater awareness to this modern day slavery would affect those involved. My hypothesis is that drug trafficking and human trafficking are correlated. My research includes an array of sources, including an interview with a trafficking awareness organization in Columbus, newspaper articles, policy research, and fact sheets on trafficking in the area. I am also challenged to raise public awareness. It is my belief that the root of the problem is the deep corruption that governs the countries of origin, and in the countries that buy drugs. My hypothesis is that by reducing drug trafficking and corruption, human trafficking can be greatly reduced, as well.

News Manipulation Prior To the U.S. Invasion of Iraq

Myron Goldsmith

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Dan Heaton, Communication & Art

In U.S. culture, the news media is one of the most influential entities to date. Research has shown that television news has an influence on its viewers (Pfau, 2008). Along with that influence is the ability to construe and misrepresent information to form public opinion on any given subject. This research makes the connection between the shift in the U.S. population's views toward an invasion of Iraq and the manipulative practices conducted by media outlets shortly after the terrorist attacks on 9/11. The methodology applied in this research is media manipulation as defined Michael Parenti, focusing on news manipulation through misinformation and slighting of content. I analyzed news clips from FOX News that covered the prospects of a possible U.S. invasion of Iraq and noted all facts and information that were stated during the broadcasts. Through this research I have gained a deeper understanding of the role the media plays in the beliefs, values, and norms in society. The manipulation of news media in today's society is an ongoing problem. The correlation between news media and their influence on viewers is evident and requires further research to create an informed and aware public.

BP Crisis Communication Analysis

Alexandria Goodwin

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Dan Heaton, Communication & Art

Public Relations (PR) scholars often examine case studies of corporate crises to develop a set of best practices for PR practitioners. For this analysis, I applied Turk, et al. (2012) three-part method to BP's 2010 Gulf of Mexico crisis to determine if BP handled the crisis well or not. The steps of their methodology include investigating an organization's pre-crisis reputation, immediate response to a crisis, and CEO visibility during the crisis. I examined news releases issued by BP on their Twitter account and corporate website to determine that although the company has financially recovered from the crisis, its CEO's response negatively impacted its reputation as an organization. This information is important for PR practitioners to realize as they handle future crises within organizations. Through this project, I gained insight into the importance of timely and accurate responses during a crisis situation.

An Analysis of the Use of Commedia Dell'arte in French Theater

Margaret Graham

Oral Presentation: Battelle 235 // 2:00 PM

Mentor: Marie-Madeleine Stey, World Languages & Cultures

The study of French theater over the centuries yields a wide variety of influences and notable pieces. Theater during the 18th Century was a societal phenomenon, particularly in Paris through which a variety of passing comedy troupes left their mark. In particular, the practice of *Commedia dell'arte*, an Italian form of semi-improvisational theater which uses a set of archetypical characters, influenced two of

France's most famous playwrights. Through a prism of theatrical and literary analysis, this project aims to reveal the multitude of ways in which Moliere and Pierre Beaumarchais utilized aspects of *Commedia dell'arte* in their works. While French theater offers a great deal to study on its own, it is important to note the outside and globally diverse influences that helped shape it, in this case, the "theatre des Italiens." This presentation will be given in French.

Self-management of Diabetes Using E-intervention

Cherelle Hagans, Semone Wilbert, Kelly Weddell

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Mary Burkett, Nursing

Diabetes Mellitus is one of the most significant chronic diseases with worldwide impact. In the United States, the incidence is 9.3% of the population with approximately 22 million diagnosed and 9 million undiagnosed. There are two major categories: Type 1 and Type 2. Both have epigenetic factors associated with development of the disease. Type 2 diabetes also has significant lifestyle risk factors, including obesity. Both types of diabetes are associated with multiple morbidities and early mortality. The cost in the United States is estimated to be \$245 billion per year. Diabetes also represents a chronic disease with racial and ethnic disparity concerns. The incidence and complication rates are significantly higher in racial minorities. Regardless of specific type, the chronic nature of diabetes requires meticulous management and self-care on the part of the patient. The purpose of this evidence-based practice (EBP) project was to explore the efficacy of technology-assisted interventions on self-management skills. The project used the Melnyk-Fineout-Overholt Model and appraised and synthesized relevant evidence from the research. This synthesis resulted in the assessment that electronic support does improve self-management skills and should be implemented in practice. Enhanced self-management has potential to improve both clinical and financial outcomes.

The Use of Anatomical Dolls in Child Sexual Abuse Investigations

Ashlee Hall

Oral Presentation: Learning Center 102 // 2:30 PM

Mentor: Renda Ross, Social Work

Various forensic interview models have been developed since the 1990s to effectively investigate sexual abuse allegations (Faller, 2015). A notable debate within the field has to do with differences in how sex and anatomy are addressed with children and how this may lead to difficulty in their disclosure. Some models support the use of props, such as anatomical dolls, to aid in the disclosure. The use of anatomical dolls when interviewing children is a controversial topic with strong opinions on both sides. The current project uses resources identified in the student's Social Work Field Education agency, Clark County Family and Children Services, to explore the arguments for and against the use of anatomical dolls and how they can be used effectively during sexual abuse investigations. Methodology includes (1) unstructured interviews with 2 forensic interviewers, including a social worker, who have several years of experience in conducting forensic interviews, (2) a literature review, and (3) a review of procedure and training manuals used by forensic interviewers. Results

are discussed with implications for social work practice and the need for specialized training across disciplines involved in forensic interviewing.

GMO: Name Brand Cereals vs. Non-Name Brand Cereals

Lala Hamidova, David Schlanser, Brittany Ferguson

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

Name-brand companies can be multimillion dollar corporations. Although these companies may be bigger, they might not be any different than their smaller competitors when it comes to genetically modified foods (GMOs). Since GMOs are a growing concern to the public, it is important for consumers to know what products contain GMOs. We have collected a variety of corn-based products from the U.S.A, and products produced in Central and South American countries. Using established lab techniques and supplies from Bio-Rad Laboratories, we have extracted DNA from corn products including chips, cereal, and other snacks. DNA was amplified using polymerase chain reaction (PCR) to detect the sequences known to be used to produce GMOs. Samples were run on 3% agarose gels, along with positive and negative controls, and visualized using ultraviolet light following ethidium bromide staining. Results of this study will help consumers make informed choices about purchasing products containing GMOs.

Influence of Habitat Type on White-Footed Mice (Peromyscus Leucopus) Across Multiple Years

Tori Hanlin

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Christine S. Anderson, Biological & Environmental Sciences

Peromyscus leucopus, the white-footed mouse, is a generalist rodent distributed across the eastern United States. They tend to prefer forests containing structurally complex understory vegetation. *Peromyscus leucopus* are important because they are considered a primary host for the bacterium that causes Lyme disease. The goal of this study was to estimate population abundances in two habitats at Capital University's Primmer Outdoor Learning Center in Logan, Ohio, during the summer months (May-August) of 2012-2015. A 4x8 grid of 32 Sherman live-traps were placed in a deciduous forest ('Woods' grid) while a transect line of 24 Sherman live-traps were placed in a fencerow between an agriculture field ('AG' line) and a grassland habitat. Data analysis showed that densities of mice differed between habitats across years ($\chi^2 = 26.1$, $df = 3$, $p < 0.001$). *Peromyscus leucopus* were more abundant in the 'AG' habitat compared to the 'Woods' habitat in all years except 2014. This work suggests that these rodents are excellent dispersers often found in a variety of habitats, but appear to avoid traps where short-tailed shrews (*Blarina brevicauda*) have been previously captured. Future work includes estimating genetic diversity and migration between populations within the framework of source-sink dynamics.

Life with a Torn Meniscus

Michelle Heckman

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sport Science

Meniscal tears are one of the most common knee injuries among any age group, with one-third of meniscal tears being sports-related. The meniscus' role is to absorb weight and stabilize the knee joint in weight bearing. Meniscal injuries often occur during a twisting motion with a partially flexed knee and fixed foot. Approximately 55% to 65% of meniscus injuries occur in conjunction with anterior cruciate ligament (ACL) tears. The purpose of this paper is to describe the benefits of arthroscopy surgery as well as the treatment and rehabilitation protocol prior and post-surgery. Surgical options include open knee surgery or arthroscopic meniscectomy or meniscal repair. Research was conducted to determine the benefits of knee arthroscopy surgery. The typical meniscal repair rehabilitation protocol is 12 weeks depending on the athlete's goals. With physical therapy, athletes will work on range of motion (ROM), strength, balance, and proprioception in order to return to play. Further research is developing daily, and the review of current literature can assist clinicians in providing accurate treatment and rehabilitation for athletes for return to play.

Title IX: Comparing Private and Public Universities

Chelsea Heppert

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

College students' awareness of sexual assault and other forms of assault has increased greatly in the United States. "The U.S. Department of Education's Office for Civil Rights (OCR) is currently conducting 97 investigations at 94 universities over concerns that the schools violated Title IX in their handling of sexual violence cases" (Edwards, 2015). Title IX protects students and faculty from facing sex-based discrimination, addresses sexual assault and harassment, and other abuses. This study investigates Title IX and how it is implemented in private universities compared with public universities. One study suggests that it is easier for private schools to train any person who implements Title IX's grievance procedures and calls for the OCR to provide more funding for training in other types of institutions (Edwards, 2015). By conducting a policy analysis, using Edwards' framework I investigate whether there are discrepancies between different types of institutions on how they enforce and follow the laws mandated under Title IX. Ensuring that this policy is enforced properly will better protect students in both public and private colleges and universities from sexual assault in the future.

First-Generation Experience: Examining Programming Targeted at Fostering Self-efficacy, Resilience, and Grit for First-Generation College Students

Anthony Hitch

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

First-generation college students (FGSs) often face challenges that contribute to lower rates of college persistence as evidenced in approximately 43% FGSs withdrawing without a degree (NCES, 2015). Influencing factors include family background (Gibbons & Woodside, 2014; Stebleton et al., 2014; Wiggins, 2011), socioeconomic status (Petty, 2014; Tate et al., 2013), intrapersonal struggles (Woosley & Shepler, 2011), and social support (Coffman, 2011; Jenkins et al., 2013). Still, motivation may be most influential to FGSs' academic success (Blackwell & Pinder, 2014). Overcoming these barriers requires distinct cognitive processes, beliefs, and abilities, often developed through socialization or intentional learning environments. The purpose of the study was to evaluate the effectiveness of a workshop aimed at fostering motivation and community among FGSs at a small, Midwestern university. Data were collected using the Short Grit Scale (Duckworth & Quinn, 2009), the General Self-Efficacy Subscale (Sherer et al., 1982), and the Resilience Scale for Adults (Friborg et al., 2003). Results indicate the degree to which students' scores on the three scales changed after participation in the workshop. These findings can be used to improve the program's structure and content, and may be useful in programming aimed at other student populations and on other college campuses.

Sport Fandom and Social Identity

Anthony Hitch, Aric Billings

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Janette McDonald, Psychology

Research has found psychological benefits associated with sport fandom, including social connectedness, popularity, and increased self-esteem (Winegard, 2010). Sport fans self-identify as part of an in-group (Reysen & Branscombe, 2009), view fellow team fans more favorably (Wann & Dolan, 1994), and perceive group membership despite not belonging to established organizations (Reysen & Branscombe). While universities often have sports teams for community members to support, we observed that students, faculty, and staff at Capital University often wear other university apparel on campus. We examined sport fandom at Capital University in relation to sport fan behavior, socialization of sport fan role, identification with social role of sports fan and team identification. Most participants watch their favorite team on television, but there was no consistent rate for discussion of their favorite team. Most students identified parents as their top socialization agent, while none indicated their school. Large numbers reported feeling gratified after team wins; far fewer reported feeling depressed after losses. Information gained from investigating sport fandom on college campuses may contribute to efforts aimed at creating a sense of community among students, faculty, and staff.

The Role of Gypsies in “Romancero Gitano”

Suzie Hosea

Oral Presentation: Learning Center 202 // 1:30 PM

Mentor: Stephanie Saunders, World Languages & Cultures

The poetic oeuvre of Federico Garcia Lorca, one of Spain’s most prominent poets of the 20th century, is laced with revealing symbolism that transports the reader to the cultural milieu of pre-Civil War Spain. In “Romancero Gitano” the poet elaborates the complexity of the gypsy’s plight and their culture during the mid-century. This paper delves into the representation of gypsies in “Romance de la luna luna” and “Romance de la guardia civil española” from “Romancero Gitano” through the application of their background, literary theory, and media studies. This project explores how the gypsies were portrayed, how they have developed through time, and how they are portrayed in modern society in a variety of forms such as popular media representations.

Spanish in Action: Performing an Original Play

Suzie Hosea, Kaitlynn Brindza, Jay Scott

Oral Presentation: Learning Center 202 // 2:00 PM

Mentor: Maria Jose Delgado, World Languages & Cultures

We, the students in Spanish 410 Hispanic Theater, revised and edited original works written by students. We have been introduced to the historical background of theater, its evolutionary process, and how to properly write a play. Then we created original pieces. The purpose of our project is to demonstrate our level of expertise and creativity that we have obtained during the weeks in Spanish 410 by combining our plays into a hard-copy book, and then selecting the best work to be performed by us during the Symposium. We learned the intricacies of the creative process, of writing and performing this play, the nuances of languages, and the importance of enjoying learning. This project was done completely in the Spanish language, within the culture of the Spanish world, which has expanded our knowledge of how to properly write a play.

Music Major Sources of Stress

Trisha Howard, Sarah Chidsey, Evan Eggleston, Mason Juenger

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

A growing concern within undergraduate education today is the psychological well-being of students. Rising tuition prices, debt, and an increased number of students with children have been cited as possible sources for increased student stress beyond traditional factors (Hurst et al., 2013). The presence of stress has been linked to lower life satisfaction (Holinka, 2015) and decreased academic performance (Krumrei-Mancuso et al., 2012). Thus, it is no surprise that stress among students has been observed first hand by their professors. The purpose of this study was to examine heightened levels of stress among music majors at Capital University. Focus groups were conducted to examine causes of stress, consequences of stress, and how students coped with stress. Findings revealed the level to which students felt that stress impacted their life and performance ability, and showed

trends related to the sources of stress. The results of this study will be used by the university to combat the strain music students have been feeling and to help them cope better with stress.

Shoulder Complex Stabilization Course

Zach Huffer, Sam Olewiler, Justin Ennis, Ashley Clark

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Bonnie Goodwin, Health & Sport Science

The purpose of this advocacy project was to increase the knowledge of high school student athletes on the importance of injury prevention and maintenance programs for the shoulder complex during overhead or shoulder-intensive sports. The emphasis of this project was to teach proper shoulder complex strengthening and injury prevention exercises, as well as proper stretching techniques. The exercises and techniques were taught using Thera bands and dumbbells that weighed no more than five pounds. Through these exercises and stretches, the student-athletes stand to strengthen their rotator cuff and scapular stabilizing muscles, which leads to stabilization and protection of the shoulder complex from future injury. The anatomy of the shoulder was taught to the group as a whole, then later the group was broken in half. Half of the group went through the dumbbell and bodyweight exercises, while the other half was instructed on the techniques of Thera band exercises. The groups were then rotated and completed the other set of exercises. The group then reconvened, and the main points were reiterated with a question and answer section following. From this project we gained a better understanding about coordinating preventative exercise programs among high school athletes.

Human Trafficking Versus Prostitution: Perception and Understanding

Zach Huffer, Michelle Heckman, Jacob Pulliam, Christie Norris

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. VanHorn, Psychology

Prostitution and human trafficking have been misconstrued as the same practice around the world for most of the 21st century. This study asked participants a series of questions to discover if the average university student is aware of the problem and the differences between the two practices. Considerable differences between the two exist; from relationships with the pimp, to quality of life, and willingness to participate, there is a clear divide between the two. By discreetly defining the two, and asking participants to answer a set of questions designed to differentiate the two practices, we identified common misconceptions and connotations. Our results suggest that a majority of our participants believe that law enforcement is underequipped to handle the issue. There are trends in participant belief that those being human trafficked have a lower quality of life, higher STD rates and commonly are minors.

Nutcracker Fracture of the Cuboid

Kaylee Hurst

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sport Science

Cuboid injuries are rare and often are missed at an initial visit but can be very debilitating, especially for dancers. A fracture of the tarsal cuboid bone in the foot is commonly referred to as the “nutcracker fracture,” due to its mechanism of injury, which is acute compression of the cuboid between the anterior process of the calcaneus and the base of the fourth and fifth metatarsals, causing the cuboid to “crack” as a nutcracker would a nut. This injury can be treated with conservative methods but most often requires surgery. This study’s main focus is to discuss the pathology of this injury, what the best conservative and surgical treatments are, and what set-backs can occur during the surgical or rehabilitation process. A rehabilitation protocol is provided so clinicians can have an idea of the what exercises should be performed with their patients for a safe and timely recovery. Through data collected from peer reviewed articles, an understanding of the management and rehabilitation of a nutcracker fracture will be gained.

Health Concerns Related to the Consumption of Genetically Modified Foods

Ossiel Ibarra, Rebecca Kapavik, Teresa Ofei

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

Genetically modified organisms (GMOs) can be defined as organisms (i.e., plants, animals or microorganisms) in which the genetic material (DNA) has been altered in a way that does not occur naturally by mating or natural recombination. It can be argued that genetic modification produces a higher yield and better nutrition; however, the consumption of these genetically modified products can cause serious health effects in humans, including allergies from foods that typically do not cause them. Previous studies in this lab have shown that roughly 65% of corn products are genetically modified; we are continuing to test additional specific corn products to enlarge the data base. We are extracting DNA from control non-GMO food samples and grocery store food items. Extracted DNA is being amplified through polymerase chain reaction (PCR), and results are being analyzed with agarose gel electrophoresis. The results of this experiment demonstrate the risk of consuming GMO products and reveal any health concerns.

The Hidden Mentality of the Veil Between Blacks and Whites

Martina Jack

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

While some people may see life of African Americans today as improved, those who are incognizant continue to have confidence in a system that seems to not serve justice the way it is written in affirmative action. Disputes persist on whether post-Civil War racism, discrimination and segregation have truly abated. A constitutional scholar known for her strong views on mass incarceration in the age of colorblindness, Alexander (2010) calls the current crisis the “New Jim

Crow.” Few would argue that African Americans are in a better shape now than they were during slavery. This content analysis research aims to explain just how far African Americans have really come and how they articulate a need for change. Through music, imagery and protests, such as “Black lives matter,” my study addresses the problems in society for African Americans while showing the different perspectives and responses to the future of this race in America. This study should rouse public opinion on how much has really changed regarding affirmative action policies and others in need of refinement.

Functional Movement Screening on High School Athletes

Morgan Jenkins, Michael Harvey, Tanner Zinni

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Bonnie Goodwin, Health & Sport Science

Many athletes are not aware of the consequences of not having proper form through sport performance and weightlifting and how important muscular stability is. A seven-system test called Functional Movement Screening (FMS) helps determine the athletes’ performance on a numerical scale to put into perspective the strengths and weaknesses of each athlete. These injuries may be prevented by teaching the athlete the importance of having good form and strengthening the weak muscles they may have. We conducted FMS of 10 high school athletes, five male athletes and five female athletes, we also educated the athletes and coaches by explaining how important correct form, stretching, and rehabilitation techniques that can increase performance and decrease injury rates. In conclusion, the athletes will be more knowledgeable on proper technique, muscle stability, and injury prevention. Once coaches, athletic trainers and athletes are trained and proficient going through pre-screenings before and after each season, there could be an increase in performance levels and decrease in the amount of injuries per season in all sports incorporating FMS with each sport.

The Conscious Consumer: The Relationship Between Sweatshop Awareness and How University Students Shop

Mackenzie Jensen, Bridget Buckley, Regan Hanood, Alanna Stosic

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. Van Horn, Psychology

In college, students are inclined to purchase convenient products offered at the lowest prices. However, many students are unaware of the conditions or methods used to create these products. Research from the group End Modern Slavery reports that more than 11,000 sweatshops were known to be in the United States in 2000, all of which were breaking both overtime and minimum wage laws. The purpose of this study is to examine whether the level of knowledge a university student has about sweatshops affects their attitude toward the clothing industry and likelihood to purchase unethically made merchandise. This study, conducted using an online survey, tests university students’ awareness of sweatshops and presents them with video footage of a sweatshop environment to see if it will affect their future purchases. Our findings show that the majority of students have a moderate knowledge of sweatshops. More than half of our participants state that they would be more conscious while shopping

if a company sweatshop list was made public. Collectively our results show that consumers are disconnected from their product origins. This study, combined with education, could hopefully inspire change in how individuals shop and how products are produced.

The Hopewell Culture and the Religious Significance of the Newark Earthworks

Arielle Johnson

Oral Presentation: Battelle 212 // 1:30 PM

Mentor: Craig Burgdoff, Religion & Philosophy

Hopewell is a prehistoric Native American culture that spanned from Nebraska to Mississippi, Indiana to Minnesota, and Virginia to the center of Ohio around 100 B.C. The distinct characteristics of the Hopewell culture in the Ohio Valley have left a lasting impression on the history of Ohio and the individual cities the Hopewell people inhabited over 2,000 years ago. This study explores the religious significance of the Hopewell Earthworks located in Newark, Ohio, using archeological and anthropological records as well as studies of Native American religions. Archival research was carried out at The Ohio State University Newark Campus's Hopewell Earthworks Collection. While the mounds built by the Hopewell clearly held religious significance, what we know is limited, in part, because the archeological evidence has been compromised by looting and industrial development. This case study demonstrates the extent to which the religious significance of archeological sites and anthropological data can be understood and interpreted by contemporary scholars. Drawing upon the research of archeologists and anthropological studies of Native American religions, uncovering the meaning of the mounds is important, not only to the study of religion, but to the preservation of the Hopewell Earthworks.

John R. Lynch: From Slave to Congressman

Sarah Jones

Oral Presentation: Learning Center 103 // 2:00 PM

Mentors: Eva George, Andrew J. Carlson, History

The accomplishments of black politicians during Reconstruction are often ignored or down played. The objective of my research on black Congressman John R. Lynch is to examine the accomplishments of black politicians. What were the challenges Lynch faced? Was he corrupt? Did he and his fellow black politicians dominate the governments of the southern states? Why would Lynch in his later years feel the need to author multiple works on the subject? Lynch was the author of two works refuting the incompetency of blacks during Reconstruction as well as his own autobiography. These works were consulted as well as other texts on the time period. I expected to find that John R. Lynch and his fellow congressmen were not incompetent or corrupt but worked to help the South recover from the Civil War and achieve equality between white and black people. This study fits into a larger framework of the re-evaluation of the roles blacks played in U.S. history.

Morality & Medicine: Negative Consequences of Patient Lifestyle

Alexis Juergensen, Erin Eckstein, Adriana Rivera, Rob Edwards and Mia Rapolla

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentors: Kerry L. Cheesman, Biological & Environmental Sciences; John L. Dennis, Psychology

Morality is important. And yet most of our moral thinking occurs below awareness; we are moral strangers to ourselves. We examined this concept with three projects; the final one (presented here) was how medical judgments, by non-medically related individuals, were influenced by whether the patient was obese or athletic. A questionnaire was given to participants (n = 101, 70 women and 31 men, average age 20.6 years). We presented 4 questions about a hypothetical doctor's visit and later surgery, ranging from expenses for the surgery to how long the doctor's visit would last and how long the operation would be. Data showed that participants believed a doctor's visit for an athlete would be significantly longer than a doctor's visit for an obese patient, and that operations on athletes would be faster by .62 hours (37.2 minutes) than those on obese patients. The data shows that people expected more time for the obese patient possibly because the surgery would more complicated with the excess amount of fat that would be more difficult to operate around. We hypothesize that doctor-patient time was predicted to be more for athletes because doctors may feel that athletes, who do not have self-inflicted problems, deserve more attention.

Le mariage de Figaro – The Play and Opera

Craig Juricka

Oral Presentation: Battelle 235 // 2:30 PM

Mentor: Marie-Madeline Stey, World Languages & Cultures

In this presentation I examine the history behind Mozart's opera, *The Marriage of Figaro/Le nozze di Figaro*. This Italian opera is based on the French play by Pierre Beaumarchais, *La Folle Journée, ou Le mariage de Figaro*, which was written in 1784. The play is a direct representation of the pre-revolutionary French society, with the nobles ruling supreme. It is intriguing that Mozart, who was of German descent, decided to write his version in Italian, while the original story was in French. I intend on using Beaumarchais' play to describe the story of Mozart's opera and how the two relate. During my presentation, in French, a vocalist will perform an aria to demonstrate both the Italian and French versions of the opera, in order to show the similarities and differences with the two languages. Also, I give a brief background of the play and point out Beaumarchais' unique style of writing, which creates musicality of each line in the way that the words rhyme. It seems no mystery that Mozart decided to create his opera after reading, or perhaps watching this play.

Who Are The Leaders?

John Kearfott, Kiara Wagner, Halle Kevern, Jenna Sullivan, and Brooke Fonderlin

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. VanHorn, Psychology

Family dynamics can play a large role in student involvement. We investigated one aspect of family dynamics, the effect of birth order on campus participation. We hypothesize that older children hold leadership positions, middle children are complacent (least involved), and younger children are the most likely to be involved in social clubs and Greek life. We measured these principles on college campuses. Our survey contained questions designed to identify majors, campus involvement, birth order, and personality traits. We use Likert scales, such as a personality scale, short-answer questions, as well as multiple choice to gain insight into these phenomena. Our results show first borns are more likely to self-identify as leaders, while the majority of the later-born children are indifferent, or disagree with possessing this attribute. The results of this study can be used to develop leadership early with first borns, as they seem to have a natural strength in this area, and promote these skills in younger children to advance their abilities as they mature.

Using Electronic Screening to Assess the Efficacy of Smoking Intervention and Cessation Efforts

Haley Kelly

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nancy Swails, Biological & Environmental Sciences

Secondhand smoke is defined as the combination of smoke from the burning end of a cigarette and the smoke exhaled by the smoker. It contains more than 7,000 toxic chemicals, including many known carcinogens. Tobacco use is a serious threat to the health of all family members, including those exposed to secondhand smoke (SHS). The Clinical Effort Against Secondhand Smoke Exposure (CEASE) module aims to eliminate child exposure to tobacco and SHS through the implementation of clinician-derived intervention and cessation practices. This was tested in pediatric practices using electronic screening systems that survey parents for tobacco use and facilitate in the delivery of tobacco cessation assistance to parents of pediatric patients. Ten practices in five states were randomized into CEASE intervention or usual (control) care. Electronic exit interviews were analyzed to assess the efficacy of CEASE intervention. Results show a statistical significance between the intervention and control groups as indicated by higher rates of enrollment in quitlines and the provision of smoking cessation medication. Thus, the use of electronic screening tools appears to be helpful in screening parents and delivering effective cessation methods and may be worth implementing in all child health care systems.

The Socioeconomic Impact of Buckeye and Grand Lake's Environmental Issues

Chelsea Kemper

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

Man-made lakes, especially century-old ones, are prone to environmental issues. These issues have more than just an impact on the lake itself; they affect people's homes and industries. The deterioration of the very environmental features that have drawn people in has the potential to reduce the value of nearby properties and investments (Hill et al., 2007). I compare and contrast the two lakes that have similar origins but different environmental issues. I investigate why their corresponding issues have affected their local economy, specifically residential and commercial properties. My research consists of interview-based field research. The difference in situations, attitudes and political factors of each lake and its surrounding communities reveals decisive socioeconomic impacts. This research provides citizens and public officials pertinent information to use while calculating investments and forming constructive public policies.

Does Gender Influence Perceptions of Assault?

Taylor King, Aurelia McMahon, Taylor Gardner, Jessie Pepera, Shayla Bowen

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. Van Horn, Psychology

There are many common misconceptions about victimization of males compared to females. For example, it is commonly believed that women are more likely to be attacked by random strangers, when in reality, they are more likely to be attacked by someone they know. The purpose of this study was to identify gender biases that people hold in relation to domestic violence and sexual assault. We administered a survey that had participants respond to hypothetical scenarios, which allowed us to compare and contrast the responses between male and female participants. The problem with these biases is that they allow these crimes to be overlooked and diminished. Our results help create awareness of these biases in regards to victims of such crimes. From our findings, women tend to accurately estimate or overestimate the chances of sexual assault, whether the victim is male or female. However, men tend to underestimate the chances of sexual assault, whether the victim is male or female.

American Dream: Allen Ginsberg's "Howl" as a Vehicle of '50s Social Critique and Contemporary Poetic Critique

Troy King

Oral Presentation: Battelle 254 // 2:00 PM

Mentor: Reginald Dyck, English

The crux of my research lies in my reading and interpretation of the poem "Howl" by Allen Ginsberg in conjunction with several theoretical approaches. I assert that "Howl" simultaneously critiques and destroys the idealistic political and social climate of the 1950s and 1960s,

revealing through its style, textual awareness, and psycho-prophetic voice the vices of conformity and materialism. It preaches the poetic sermon of a wild, free, maddening approach to life, embraced by the counterculture that criticized both the sociopolitical and the literary climate. My interpretation is based on line-by-line literary analysis through the lens of Cultural Materialism as defined by Andrew Milner. I combine Milner's theoretical perspective with the historical analysis of David Halberstam and John Raskin's biography of Allen Ginsberg. I guide the reader through a specific interpretation of "Howl," combining these theories with my own poetic insights. I use "Howl" as a benchmark for comparing the sociopolitical climate of today with that of 1950s era America. Finally, I use it as a point of reference to critique the stagnant state of contemporary American poetry.

The Effect of Musical Training on the Ability to Hold Spoken Words, Text, and Images in Working Memory

Mary Klacik, Rachel Dumke, William Rogers, Jessica Pohlman

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kimberly Heym, Biological & Environmental Sciences

The use of PowerPoint technology is a common teaching technique and exposes students to text, images, and spoken words. This project tested the ability of musicians and non-musicians to hold these three modalities in working memory. Musical training leads to a change throughout the auditory system, making it possible that musical training affects working memory. Working memory was tested by having students ($n = 41$) view a PowerPoint slide containing images (black and white or color), text, or human voice followed by a slide containing a simple math problem, which served as a distractor. Each subject wrote the answer to the math problem followed by the image, text or spoken word in exact order. Pearson's correlation suggested a relationship between musical training and the ability to hold images ($r = 0.415$, $p = 0.006$), but not text ($r = 0.197$, $p = 0.21$) or spoken words ($r = 0.170$, $p = 0.283$) in working memory. Furthermore, this correlation held true for both color ($r = 0.308$, $p = 0.047$) and black and white images ($r = 0.376$, $p = 0.014$). This work is important because professors teaching courses with a wide audience may want to incorporate specialized teaching strategies toward different types of students.

Percent of Change: Instruction that Matters

Julia Kunkel

Oral Presentation: Learning Center 102 // 1:30 PM

Mentor: Hoyun Cho, Education

If a teacher's instruction gets students engaged in a lesson, students are learning. Instruction is defined as not just direct instruction, but any interaction or teacher facilitation in the classroom. The purpose of this study was to determine whether instruction made a difference and helped students to gain understanding of the context of teaching percent of change. Research was conducted in a Columbus Public 7th grade mathematics classroom, and white boards were used for the instruction. Assessments about percent of change were administered before and after instruction occurred. The assessments were graded on a scale from 0 - 3 that gauged understanding from little to no

understanding, to on target with the content standard. This study showed that students gained understanding, and on average moved up about one level on the scale used for judging understanding. However, the assessment failed to properly gauge the students' understanding. Students who put in the effort to productively struggle and think through the topic, generally gained a deeper understanding than those who simply copy down the formula.

Reducing Asthma Exacerbations in Children

Lindsey LaBarge, Maggie Sullivan, Sarah Behrent, Tara Clune

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Mary Burkett, Nursing

Asthma is a chronic inflammatory disease of the airways that causes shortness of breath, coughing and wheezing. According to the Center for Disease Control there are 25 million Americans with asthma and the annual cost of treatment is estimated to be \$56 billion. Severe exacerbations can result in death. There is also a disparity related to ethnic minorities, with African Americans having a higher incidence, morbidity and mortality. There are many management strategies related to asthma. This evidence-based practice project focused on the role of exercise and weight management in children with asthma as exercise is often avoided and discouraged. This sedentary lifestyle will often lead to obesity. There is evidence that both obesity and lack of exercise contribute to the inflammatory state that is a root cause of asthma. The PICO question guiding the search for evidence was: In children with asthma, how do exercise and physical activity affect symptom control and weight? Synthesis of current evidence from CINAHL, PubMed and Cochrane indicates that regular exercise in asthmatic children does have a positive effect on both symptom management and weight control. The recommendation for practice is that exercise should be introduced into all asthma management plans.

Spatial and Temporal Characteristics of Crime in St. Petersburg, Florida from 2009-2013

Shannon Lamar

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sherry Mong, Sociology & Criminology

The present research examined the spatial and temporal characteristics of auto theft, burglary, and robbery in St. Petersburg, Florida, from 2009 to 2013. The Near Repeat Phenomenon states that if a location is a target of a crime, then the locations within a relatively short distance have an increased risk for the same crime within a limited time span. Given this, the Near Repeat Calculator by J. Ratcliffe used date and coordinate points to determine if the Near Repeat Phenomenon was present. To explore the spatial characteristics of these three types of crimes, ARC-GIS by ESRI was used to create maps of St. Petersburg crime. Concurrent with previous research, the findings suggest that crime clusters within specific geographic areas of St. Petersburg, Florida. Additionally, each crime type displayed unique spatial-temporal near repeat patterns in the St. Petersburg area. While there are important policy implications for this work, it must be noted that the use of near repeat calculations by police departments is still in its infancy. Given this limitation, additional research should explore

the near-repeat phenomenon and its application to criminal justice departments.

The War on Daily Fantasy Sports

Tj Langermeier

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

The creation of Fanduel and Daily Fantasy Sports (DFS) made online fantasy sports boom. Since 2009 total participants doubled from 28.4 million to 56.8 million (FSTA, 2015). DFS shrunk season-long experiences into single days or weekends, adding financial gains for participants but exposing this innovative gambling to scrutiny by state and federal regulators. I analyzed fantasy sports legal battles through examination of laws such as the Unauthorized Internet Gambling Enforcement Act (UIGEA, 2006) and the Fantasy Sports Trade Association's (FSTA's) statistical data. I forecast future financial prospects of DFS and sports betting. I found that increased popularity, heavy financial investment, and a thin line between DFS and sports betting invited legal challenges. Paradoxically, sports entertainment corporations pressure regulators for DFS legal transparency, blurring its distinction from sports betting. This evidence, combined with the central importance of professional and amateur sports in the United States, indicates that both DFS and legality issues will stay in the spotlight for the foreseeable future.

ReCap, Capital's Literary Art Magazine

Autumn Laws, Erika Schoeps, Jessica Berchtold, Trey McDeane, Logan Wolford

Oral Presentation: Battelle 254 // 3:30 PM

Mentor: Kevin Griffith, English

This presentation will introduce the 2016 ReCap, Capital University's literary arts magazine, a campus mainstay committed to reviewing, selecting, and supporting work from writers and artists in the Capital community. By publishing poetry, prose, visual art, and photography from the student body, the magazine seeks to accurately represent and establish an audience for the creative work of Capital University's community. Using Submittable, a cloud-based submission system, the team of editors looked at over 100 submissions using a rubric to determine the highest quality creative work. The final copy was printed through MagCloud, an on-demand cloud-based publishing format. ReCap included fourteen poems, four prose pieces, and ten visual art pieces. ReCap is an integral part of Capital's connection to the growing discipline of creative writing and visual art, in which having a vibrant and flourishing journal is a crucial expectation. The editors gained valuable experience in all phases of the publishing experience. Free print copies of ReCap will be available for all at the presentation.

An Infinite Work of Art: A Possible Solution to Digital Fiction's Flaws

Autumn Laws

Oral Presentation: Battelle 254 // 2:30 PM

Mentors: Kevin Griffith, Sergey Rybas, English

Digital fiction connects multiple media into an extensive collective work and its only limits are at the discretion of its author. But, like most fiction, there is often a definite end to these works. With our constantly shifting understanding of fiction, why does digital fiction need to be limited to start and finish bookends? If digital media can be theoretically limitless, can digital fiction be as well? Additionally, if digital fiction has no defining features besides its medium, has digital fiction failed? If it can be recreated perfectly in print, then digital fiction has failed. I challenge our understanding of fiction to argue that a work of collaborative digital fiction written by a single author combined with a selective, concentrated forum populated with new content by the digital fiction's readers would allow for a theoretically infinite work of online fiction. This argument will work alongside a basic digital fiction skeleton to show how this infinite online fiction would work and challenge the way we look at fiction.

Laughatams - A Pilot Episode or The Beginning of a Series

Matt Lewis

Oral Presentation: Battelle 144 // 3:00 PM

Mentor: Betsy Pike, Communication & Art

We all enjoy television and can appreciate various aspects of sitcoms and dramas. But what is often under appreciated is the writing – especially in a pilot episode. What goes into writing, crafting and creating that first episode? It is not like other episodes where one has a 40-page script. The writer must create characters and a world to dive into to make their own. I wrote a pilot episode with the intent and determination to sell as a spec script. Digging deep into character backstory and motivation while creating a new and diverse fantasy land, all leading up to writing an introduction episode, Laughatams. I found when all these components came together it makes a creative work feel whole and worthwhile. This pilot episode is not only my unique thoughts and creativity in one place, it is also an important informing lesson to better understand how much mental work becomes one's idea.

A Content Analysis of the Portrayal of Mental Illness and Criminality in the News Media

Jessica Lucius

Oral Presentation: Blackmore Library 110 // 2:00 PM (Honors Project)

Mentors: Kathryn M. Bell, Psychology; Sherry Mong, Sociology & Criminology

Newspaper articles often depict negative stereotypes and sensationalized portrayals of psychological disorders, including depictions of those with mental illness exhibiting violent and criminal behavior. Though there is increasing reliance on television broadcasts and the internet for obtaining news information, limited analysis of mental illness characterizations in these media outlets has been

conducted. This study is a content analysis of newscasts and Internet news articles containing stories of mental illness and criminality from two regional television stations. Media were analyzed based on criteria including expert and individual voice, characteristics of illnesses, policies and implications, and conclusions about mental illness and criminality. Preliminary findings indicate that the local media commonly sensationalizes stories with minimal psychological content in relation to criminality, rarely includes expert or individual perspectives, and focuses on popular, commonly accepted policies and implications related to mental illness and potential criminality. This study provides a better understanding of the media's depiction of mental illness and how these portrayals impact the general population's understanding of mental illness and criminality.

Victimization of First Responders: Firefighters and Police Officers Under Attack

Jordan Lyle

Oral Presentation: Learning Center 102 // 3:30 PM

Mentor: Sherry Mong, Sociology & Criminology

There is a lot of interest in the use of excessive force by police officers. The public is well informed of cases where a civilian is considered a victim of police brutality thanks to the media, but cases where a police officer or other first responder, such as a firefighter or paramedic, is harmed by a civilian go unnoticed. It is very important to accurately represent both types of victimizations to correctly inform the public of the prevalence of each. Previous research shows that first responders are more likely to be victimized in the workplace than the rest of the public. In this project I used the Uniform Crime Report (UCR) to analyze data and narratives of victimized police officers as well as additional survey data of victimized firefighters and paramedics. As supplemental data, interviews of Columbus police and firefighter administrators were also conducted to examine local problems of victimization. Findings suggest the best course of action to minimize the victimization of first responders is to educate the public on their goals and intentions.

Is the Classical Music Industry Dying?

Xinzhu (Zoe) Ma

Oral Presentation: Blackmore Library 206 // 3:00 PM

Mentor: Dina Lentsner, Conservatory of Music

Generally perceived as the "art music" of Western civilization, classical music has shown decline in concert audience, popularity in broadcasting, and the educational rate. As for classical musicians, the possibility to have a successful career directly relates to the future of the classical music industry. This presentation examines factors that contribute to the apparent decline of classical music's popularity as well as those that demonstrate its adaptability to a new cultural context. Research demonstrates that classical music suffers from the aging of its audience and decreasing media exposure. Many radio stations have cut down their classical music channels and replaced them with talk shows and popular music. Consequently, the less exposure classical music gets, the less audience it gains. In addition, many elementary schools and amateur education institutions have shut

down their music programs, which may lead to the future ignorance of classical music. However, classical music industry's efforts to utilize modern techniques, including recordings, broadcasting, and online streaming, ensure that it does not vanish but rather co-exists with other types of music. As a type of music that comprises works composed centuries ago, classical music now serves as a historical archive while continuing its function as an entertainment.

Motivation in the Helping Profession of Social Work

Amelia MacKinnon

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Renda Ross, Social Work

Being a social worker requires the ability to take the perspective of others; thus, identifying and having empathy for others is a basic requirement (NASW code of ethics, 2008). The current project analyzed qualitative questionnaire data from social work majors who are currently in Senior Field Education, which is the capstone experience of their BSW degree program. Two social work field seminar classes were surveyed and asked a variety of questions requiring them to self-reflect about their values and field experiences, including what one life event led them to choose social work as a profession. Theme analysis and interrater reliability are used to analyze these data. A majority of future social workers reported to have experienced some past trauma, addiction, or have had family members who experienced these issues. Such life experiences can influence the social workers' biases, empathy, ability to manage boundaries, and may affect how they cope with stress (Olson, 2002). Implications are discussed, including how to address the health and well-being of social workers to prevent burnout.

Islamic Art: A Mathematical Approach

Esra Malkoc

Oral Presentation: Battelle 123 // 3:00 PM

Mentor: Jonathan Stadler, Mathematics, Computer Science & Physics

Centuries ago, other than using figures, artisans used geometrical figures for decoration in Islamic civilizations. With very limited tools they created enormously beautiful tiles and mosaics. In this study, we focused on types of geometric rules and how they are related to art, design, and architecture. Our study included applications of rigid motions, symmetry, classification of wallpaper designs, and solutions to a cubic equation. We learned how applied mathematics works in harmony with art including plane crystallographic groups used in Alhambra (Spain), pentagonal motifs created in Mama Hatun Mausoleum in Tercan (Turkey), and tilings of decagons, hexagons, bowties, and rhombuses in Gunbad-i Kabud tomb tower in Maragha (Iran). This work continues some of the recent work by others between mathematics and art.

The Uncanny in “Casa Tomada” by Julio Cortázar

Leah Marty

Oral Presentation: Learning Center 202 // 3:00 PM

Mentor: Stephanie Saunders, World Languages & Cultures

The short story “Casa Tomada,” written by Argentine author Julio Cortázar, has provoked much thought since its publication in 1946. The plot involves a brother, a sister, and the antique house where they reside. Slowly an unknown and nameless force takes control of the house part-by-part. The reader knows little about the force except that it manifests as everyday noises which frighten the siblings into abandoning part of their home. Several theories about this story have been written, but Cortázar wanted readers to decide on their own what actually occurred. These can be analyzed from a psychological standpoint. Specifically, renowned psychologist Sigmund Freud’s theory about the supernatural and mysterious, “The Uncanny,” is useful for approaching the text. In this project I analyze elements of the uncanny in “Casa Tomada,” to understand the siblings’ motivations, and what I perceive takes the house in “Casa Tomada” in order to better understand that while many of Freud’s theories and ideas have been labelled as dated and incorrect, some are still applicable to literature and art. This allows an understanding of how knowledge can affect our interpretation of elements of literature and our world as a whole.

Fighting for the Park: Consistency of Keirsian Temperament and Conflicts in “Parks and Recreation”

Kaleigh May

Oral Presentation: Battelle 126 // 3:30 PM

Mentor: Dan Heaton, Communication & Art

Television’s consistency with reality is often questionable. This study was conducted to see how consistent Keirsian Temperament theory is as portrayed in television office settings. It used the show “Parks and Recreation” Season 1 as the sample. By using the first episode to deduce each character’s temperament (Idealist, Guardian, Rationalist, and Artisan), conflicts were recorded and analyzed to examine whether they were consistent with their Keirsian temperaments. The study found that the conflicts, and what caused them, were consistent with Keirsian theory. This implies greater relatability with the audience. However, further studies need to be done in order to see the consistency across television shows and more.

The Origin of Mental Instability Among F. Scott Fitzgerald’s Characters

Amanda Miggo

Oral Presentation: Blackmore Library 115 // 2:30 PM (Honors Project)

Mentor: Reginald Dyck, English

This Honors Capstone Thesis uses New Historicism to analyze two novels by F. Scott Fitzgerald, *Tender is the Night* and *The Beautiful and Damned*. Using theorists like Michel Foucault and Karl Marx, this essay demonstrates how drastically society affects the character’s lives within the novels. This effect can be seen in the men’s addictions to alcohol and the women’s problems with hysteria. Fitzgerald is using the psychological problems of addiction and hysteria to show how

events like the Jazz Years and prohibition negatively affected the characters’ mental stability. Since New Historic approaches often look at power structures, I show how the society is a powerful force over his characters’ psychological well-being. Looking at Fitzgerald’s novels through a New Historic lens is important because it helps explain why all his characters end up psychologically disturbed.

Absolute Lymphocyte Count and Bone Marrow Transplant Abstract

Becca Mowad

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentors: Heather Goodin, Nursing; Micah Skeens, Nationwide Children’s Hospital

Bone marrow transplantation (BMT) is a curative therapy for several diseases, however it brings complications including graft versus host disease, increased infection risk, and transplant-related mortality (TRM). Early identification of these complications represents the best hope of improving patient outcomes. There is evidence that absolute lymphocyte count (ALC) may represent a non-invasive method to predict both complications and outcomes for BMT, however it has yet to be studied in the pediatric population. This study retrospectively examines the correlation between ALC and outcomes of BMT, such as relapse rates of hematologic malignancy and TRM. ALC values were calculated at 30 and 100 days post-BMT of 88 pediatric BMT patients. An analysis of ALC may be useful to predict the acquiring of infections or graft versus host disease; however, it did not show to be statistically significant as a predictor of transplant-related death in the pediatric population in this trial. By knowing the impact of ALC recovery on outcomes, it can allow for enhanced treatment by identifying patients at risk before proceeding with an invasive procedure and determining how to care for an immune-compromised patient. The study allowed a more consistent BMT protocol to be established across the ages.

Rehabilitation Protocol of a Rotator Cuff Tear

Kyle MUSHILL

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sport Science

Rotator cuff tears are among the most frequently seen shoulder injuries in athletics. The rotator cuff is made up of four muscles. These muscles act to stabilize the glenohumeral joint, which is relatively unstable due to the high amount of movement. Rotator cuff tears can be acute or chronic, and typically are seen as an acute injury in athletics. Glenohumeral instability can be debilitating while trying to perform at a high level in a given sport, so a proper rehabilitation protocol is imperative. The rehabilitation protocol is typically based on clinical experience and expert opinion. A thorough literature review was performed to validate these trusted protocols with recent scientific evidence to best expedite a rotator cuff back to full function. New research on early introduction into aquatic therapy and early passive motion exercises have shown improved range of motion in a smaller time frame post operation. A typical rehabilitation program lasts 4-6

months depending on the patient's goals. Inclusion of the new research stated above could expedite the rehabilitation time and lead to an efficient rehabilitation program while still having a fully functional, symmetrical and strong athlete at the time of return to sport.

Genetic Variation in Introns as a Cause of Disease

Abigail Neiningner

Oral Presentation: Blackmore Library 115 // 3:00 PM (Honors Project)

Mentor: Nancy Swails, Biological & Environmental Sciences

Disease-causing genetic variants in exons have been extensively studied but intronic disease-related variation has not. Studying only exons with respect to human genetics and disease might be missing the bigger picture of pathogenicity. BRD2 is a chromosome 6 gene that has been linked and associated with juvenile myoclonic epilepsy (JME), but BRD2 exonic variants do not cause JME. However, in BRD2, an intron with many variants has been associated with JME. This intron follows an alternatively spliced exon that leads to nonsense-mediated decay (NMD), altering the amount of BRD2 protein in the cell. We ask: Are introns surrounding alternatively spliced (AS) and NMD-causing exons more variable than other introns? BRD2 is a nuclear transcription factor, so we also put genes in two categories based on where the protein products localized: nuclear genes and cytosolic genes. We found that introns surrounding NMD-causing AS exons are significantly more variable than other introns in nuclear genes. This could be a key piece in how splicing is regulated.

A Forgotten Cause: Concentrated Poverty in Central Appalachia

Rebecca Neubig

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sherry Mong, Sociology & Criminology

In 1964, President Lyndon B. Johnson declared an “unconditional war on poverty” in order to alleviate the economic and cultural hardships facing the central Appalachian region of the United States. However, fifty years later, the problems President Johnson set out to fix are still there. Today, Central Appalachia, including West Virginia, eastern Kentucky, and eastern Tennessee, contains 93 counties that are some of the most economically distressed in the country. The residents are hidden from the rest of society by the mountains, and experience social isolation and a distinct social structure that limits economic opportunity and fosters government dependency. Through a review of scholarly literature and analysis of official statistics from the U.S. Census and the Appalachian Regional Commission, I investigated the failure of Johnson's “war on poverty.” I also critically analyzed the roots of the region's dilemmas, and proposed that through a reform of social and economic structure, building of legislation and social awareness, these problems can be solved.

Radiothon 2016 and Event Coordination

Maura O'Donnell

Oral Presentation: Battelle 144 // 2:00 PM

Mentor: Betsy Pike, Communication & Art

Radiothons are common events held by radio stations to raise money for a charity. WXCUC Radio at Capital University put on its first radiothon in March of 2015. This year, as the Event Coordinator at WXCUC Radio, I spearheaded the return of the 24-hour event. Radiothon 2016 is a 24-hour event held in the Student Union with prizes, performances, and activities for Capital students. Every activity is donation-based and all proceeds benefit the Furniture Bank of Central Ohio. The goals of this event are to raise \$500 for the Furniture Bank and to promote WXCUC Radio. Execution of this event is the combination of efforts from the WXCUC management team and my leadership over a period of several months. I created a spreadsheet system to stay organized and on task as a group. This allowed us to focus on what needed to be done and provided clear instructions on how to implement the entire event. The planning of Radiothon 2016 helped inform me of the effort and cooperation needed to plan a large event. This is important for those who want to organize events professionally as a career.

Vlog Creation and Promotion

Maura O'Donnell

Oral Presentation: Battelle 144 // 1:30 PM

Mentor: Betsy Pike, Communication & Art

In 2016, everyone knows what YouTube is. Since its creation in 2007, the service has become the No. 1 site of its kind. Now, people are using YouTube as a way to make money and form a career. These people are called YouTubers. The goal of my study was to identify and then recreate key items that make a YouTube video successful. This was accomplished by reviewing already popular YouTube videos. Patterns were then found in the videos followed by an analysis on how to include these features in new videos. Findings showed that content that audiences could relate with held the most popularity and high view count. Videos that were oriented around content that had a niche following also were shown to be engaging. This independent study is important to the media field because the YouTuber career is becoming truly viable as a career option whether behind the camera or in front of it. This independent study is especially important to those in the business field because of sponsorships with YouTubers that have a loyal and large following.

Mathematics of Juggling

Oscar O'Flaherty

Oral Presentation: Battelle 123 // 3:30 PM

Mentor: Jonathan Stadler, Mathematics, Computer Science & Physics

This research project explored the mathematics of juggling. Specifically, the recurrence relations among siteswaps are examined. A siteswap is a list of numbers used to represent juggling patterns. There are three parameters for the siteswaps to be discussed: the length of the juggling pattern, the number of balls thrown, and the maximum

height of the throws. First, I will discuss the methodology used to create recurrence relations that count siteswaps with certain properties. This included creating tables to help recognize patterns among siteswaps and comparing these patterns with the Online Encyclopedia of Integer Sequences (OEIS) to help understand recurrence relations and other fundamental combinatorial processes. Then, I will discuss a recurrence relation for siteswaps with length n , with one ball, and with all throw heights less than k , denoted $N(n, 1, [k])$. These sequences are related to generalized Fibonacci numbers. I will then present a recurrence relation for $N(n, 2, [5])$, which appears to be new, after comparing it to known sequences on the OEIS. These findings further the understanding of bounded juggling.

Social Misconceptions of Psychopathy

Jasmine Palmer, Michaela Music, Dakota Myers, Rebecca Neubig, Olandra Hudson

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. VanHorn, Psychology

Due to inaccurate portrayals of psychopaths in the media today, many individuals have erroneous conceptions of what characterizes a psychopathic personality. Laymen tend to use the terms sociopath and psychopath synonymously. A sociopath is a very introverted yet emotional individual who has a hard time connecting with society, while a psychopath is a charismatic, outgoing, yet manipulative character who appears to be a normal member of the social order. Through an online survey process, we obtained data from university students on their mental schema of a psychopath and analyzed the accuracy of their perceptions. We also studied the impact of the media on shaping these mental pictures. Together our survey participants have a widespread misconception of what a psychopath is. Correcting this misconception among the general public has the potential to reduce and prevent negative behaviors toward and by those with strong psychopathic traits.

A Case Study of the Duke University Lacrosse Team Crisis

Meredith Paparone

Oral Presentation: Battelle 126 // 3:00 PM

Mentor: Dan Heaton, Communication & Art

In 2006, three lacrosse players from Duke University were accused of raping a woman. The media attention the case garnered has been studied by several Public Relations (PR) scholars. To analyze this case, I applied Benoit's Image Repair methodology to media coverage of the crisis. I discovered that the university did not use effective image repair strategies to recuperate their reputation after the scandal. Additionally, I noted several of the strategies that they did use made the situation worse from a PR perspective. Future PR practitioners can learn valuable lessons about what to do and not do in the event of a scandal.

The Future is Round: Evaluation of Virtual Reality Journalism as a Primary Source

Marisa Pesa

Oral Presentation: Learning Center 103 // 2:30 PM

Mentor: Andrew Carlson, History

This research aims to evaluate the effectiveness and limitations of virtual reality journalism when used as a primary source. The student will first briefly research the history of virtual reality as a technology and then critically analyze the Des Moines Register's five-part story series, "Harvest of Change," that documented a five-generation Iowan farm's transition into 21st century farming. To evaluate this source, I referred to case studies from established journals such as *Columbia Journalism Review* and interviewed oral and digital historians from Capital University's History Department, The Ohio History Connection, and the editors of The Ohio State University's online history journal, "Origins: Current Events in Historical Perspective." I plan to answer questions relating to virtual reality journalism's format, specifically its accessibility and preservability. Given that digital history is becoming ever-more saturated, historians today must decide whether this specific digital source promises historical significance and/or longevity. If so, historians may rely on these videos when trying to unearth social, material, and geographical landscapes. As an English and history dual major with a minor in journalism, I am highly interested in analyzing historians' future plight in using virtual reality, journalism's promising but potentially problematic horizon.

The Enchanting Legacy of Those Ladies in Red: Following the Changing Nature of The Red Detachment of Women

R. Christian Phillips

Oral Presentation: Learning Center 103 // 3:00 PM

Mentor: Alexander Pantsov, History

No country has used the persuasive power of a dramatic storyline more effectively or manipulatively than the People's Republic of China. The story of Hainan Island's Red Detachment of Women, a trained detachment of female soldiers who fought during China's civil war in the 1930s, was first published in 1958. It quickly gained national attention, being retold in multiple movies, as various operas, and becoming the first Chinese-created ballet, which was shown to President Nixon on his 1972 visit to open relations with China. I analyzed Lois Wheeler Snow's and Martin Ebon's multiple critiques of the Chinese stage, Rosemary Roberts' studies on gendering, Yale's Dr. Eng's examination of music, Roxane Witke's interviews with Madame Mao, and other works evaluating the various versions. I reveal how this story emerged from the intense internal warfare of the Cultural Revolution to become China's greatest artistic offering of the 20th century, forever changing Western ballet and creating the new dance form of revolutionary ballet. To date, this story has not been examined as a single overarching entity. This essay illustrates how it has become China's international goodwill ambassador as well as a modern cultural phenomenon crossing multiple literary, artistic, academic, and tourist spectrums.

Differences in Amphibian Diversity Across Sites Infected with Chytrid Fungus in Central Ohio

Gabrielle Power

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Christine Anderson, Biological & Environmental Sciences

Batrachochytrium dendrobatidis (Bd) is a species of aquatic fungus that infects amphibians and causes chytridiomycosis, which is an infection of the outermost layers of skin that interrupts respiration, hydration, and osmoregulation. The fungus is of concern because in the last 30 years it has likely caused the decline or extinction of at least 200 amphibian species globally. The purpose of this study was to survey sites in Central Ohio for the Bd chytrid fungus and to compare amphibian diversity between sites with positive versus negative chytrid results. We hypothesized that less susceptible species, such as the American bullfrog, would be present at both infected and uninfected sites. Surveys were conducted in four local Metro Parks using funnel minnow live-traps and dip nets in March-April and September-October 2015 with future data collection planned for March-April 2016. Preliminary results showed that bullfrogs, which may serve as carriers of the disease, tested positive for Bd in three of the four parks. Our recommendation to park managers is to educate their visitors to minimize the spread of this fungus between local parks. This project also engaged local eSTEM high school students as interns in the field and laboratory.

Under Pressure

Kahlia Ragland, Miranda Mueller, Katelyn Gilmore, Gabriella Tole

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. Van Horn, Psychology

While the primary stressors faced by college students have long been identified, research regarding the correlation between the applicator of pressure (i.e., family, society, self, peers/friends) and the level of stress brought on by each stressor is limited. To determine how the applicator of pressure influences the magnitude of stress brought on by potential stressors, we created a survey in which participants ranked the level of stress brought on by each stressor on a Likert scale. The study encompassed four subgroups of stressors: intrapersonal, interpersonal, academic, and environmental. To determine the primary applicator of pressure within each group of stressors, participants were asked to select the top applicator of pressure at the end of each survey section. An analysis of the data revealed that most students were the primary applicator of their own stress across all subgroups of stressors. Once we find the primary source of stress it will be possible to teach college students the coping mechanisms necessary to overcome their stressors.

Communicating Institutional Values Through Branding

Caleb Ray

Oral Presentation: Battelle 123 // 1:30 PM

Mentor: Stephen Bruning, Lois Foreman-Wernet, Communication & Art

Institutions of higher education have found themselves at the center of the branding buzz. In order to compete in a market with fewer and fewer students, universities must find ways to stand out and build or expand upon their brand. Branding – defined by the American Marketing Association as being “represented by a collection of images

and ideas; often, [...] a symbol such as a name, logo, slogan, and design scheme” – has become a necessity to convey a university’s mission to prospective students, keep alumni involved, and to build brand and university equity. Through the use of a marketing and communication audit on materials sent from Capital University’s Admission Office, email communication was identified as an area with opportunities to improve. In order to conduct this audit, emails were sorted into two categories – relational and functional – and from there analyzed adherence to Capital brand elements, voice, and general consistency (capitalization in subject lines, logo placement, and font usage).

Crime And Inequality On American Indian Reservations

Jessica Reed

Poster Presentation (Honors Project): Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

The United States is home to 326 American Indian Reservations. Although the notion of a reservation calls to mind an image of running horses and open plains, the modern circumstances differ substantially. Reservations are home to poverty, drug abuse and crime, with over 17,000 violent crimes committed between 2008 and 2010 alone, with rates consistently rising (Bureau of Justice Statistics). This study examines the limitations placed on tribal law enforcement through national and state policies. My research utilized comparative and statistical methods to compare the criminal data on American Reservations with the surrounding Anglo communities. The research results confirmed that law enforcement agencies on reservations are far more limited than their state counterparts, and that these limitations contribute to a cycle of violence. This study provides a better understanding of the conditions of individuals living on American Indian Reservations, and aims to contribute to policy remedies in the future.

The Kibbutzim: Failed Utopia

Austin Reid

Oral Presentation: Battelle Hall 103 // 3:00 PM

Mentor: Sean Walsh, Political Science & Economics

This research involves examining a root cause of the collapse of the kibbutz settlements, one of the most iconic socialist movements of the 20th century. While the causes of this collapse can be traced to many sources, the purpose of this research is to show how internal Israeli politics, and external international influences, contributed to the demise of one of the most famous, and romanticized, communal projects of the 20th century. A particular point has been made to examine how the close relationship between the kibbutzim and the Labor party contributed to the movement’s decline from the late 1970s onward. Upon critical examination, it is clear that the overall decline of the Israeli left and the kibbutzim are deeply intertwined. The primary lens through which this reality was studied is by analyzing the demographic changes within Israel which took place from the 1980s onward, which served to expand the political base of the right. By aligning themselves almost exclusively with a party that allowed

their values and symbols to be appropriated by rival ideologies, the kibbutzim demonstrate important examples of mistakes to avoid for current and future communal projects the world over.

The Perceptions and Prevalence of Intimate Partner Violence Among College Students

Rachel Riggelman

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

The National Coalition Against Domestic Violence reports that 1 in 3 women have been victims of intimate partner violence (IPV); the most vulnerable are young women ages 18-24, the ages of most college students (NCADV, 2016). Thus, scholars devote much attention to the study of this historically silent crime on college campuses. Peugh and Glauber (2011) found that 43% of dating college women report experiencing violent and abusive dating behaviors. Because the mental and physical risks of IPV threaten gender equity, student success and overall well-being (Kaukinen, 2014), it is crucial to build knowledge on the extent and nature of IPV. In order to gain more insight into the perceptions and prevalence of IPV among college students, I constructed a survey for students that measured their experiences as victims, bystanders, and efforts made to seek outside support. I expected to discover that numerous students have either personally suffered or know another student who has suffered from IPV, and have not sought outside support. These findings will be used to build awareness on this issue and to inform current university programs that aim to address victim needs.

The Perception of Theft Versus Reality

Thomas Roberts, Michael Gugel-Bryant, Brandon Stokes

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. Van Horn, Psychology

Theft is a common crime faced in many societies. The purpose of our study is to see the perception of theft versus the actual frequency of records indicated by local and campus police. Misconceptions of theft could lead to increased security, irritability with neighbors, and negative changes in lifestyle habits. We distributed a survey to campus students and the surrounding area to measure how theft is perceived. We expected the results to show that the public's perception of theft is greatly influenced by the living situation they are in. Our results indicate that there is a high level of vulnerability to become a victim of theft with little past experience of being a victim of theft. This research is important because it reveals that individuals perceive a high level of vulnerability when actual statistics show that no previous experience of theft has occurred.

Does Capital University's Undergraduate Symposium Make a Difference?

Brittney Rolfes, Kiana Hankins, Kenny Yurasek

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

There have been some debates about the role undergraduate research plays in a college student's experience. We assessed undergraduate research learning outcomes by surveying alumni who presented and did not present in Capital University's Symposium on Undergraduate Scholarship. The survey contained a lifelong learning scale and questions about what the alumni learned while at Capital University, as well as demographic questions that included the majors of the alumni, when they graduated, and where they were employed. Results revealed that Symposium presenters had higher scores on the lifelong learning scale and were more likely to go to graduate school. Presenting at the Symposium also increased the chances of other skills like interpersonal ones developed in college and used in post-graduate situations. Overall, we found that Capital University's Symposium on Undergraduate Scholarship has several benefits for student learning that can assist them later in life.

Learning Outcomes of Political Science Majors

Kristine Ross, Daniele Perkins, Dana Malesky

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

Given high dropout rates and looming student debt, the need for a change in higher education is imminent. Summative assessment is one tool that can help find sources of the problems in higher education. The purpose of this study was to find the differences in learning outcomes between first-year and senior-level students studying political science. We conducted a survey to assess student learning outcomes for the political science major and to determine whether lifelong learning skills are different for first-year and senior political science students. Findings for the study show gains from first-year students to senior students in regard to the student learning outcomes. This research is important because it gauges and assesses the achievement of the students in political science.

Perception: Does Stress Influence The Way You See Art?

Gina Rosta, Kathleen Smith, Shelby Hughes

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. VanHorn, Psychology

It has been known that viewing art can evoke very strong emotions. There is research supporting that art can be very therapeutic and provide a sense of relief or calmness. The intent of our study was to identify if stress levels affect the way that an individual views art. In our study we administered a survey wherein participants viewed art and answered questions about their emotional interpretation of the pieces. Following these questions, the survey was concluded with a self-evaluated stress test including demographic information. Through the data we collected in our survey we found that those who lacked control over the annoyances in their lives also showed feelings of anxiety when

viewing abstract relative to realistic art. This work gives insight on how stress affects one's perception of art which can be beneficial to those in therapeutic professions and in the realm of art therapy.

“BOBCAT 100:” The Making of a Feature-Length Documentary on High School Football

Oliver Rouch

Oral Presentation: Battelle 144 // 2:30 PM

Mentors: Betsy Pike, Jim Higgins, Communication & Art

I played high school football at Grandview Heights High School, in a small suburb of Columbus, Ohio, where I was raised on the sport from second grade until graduation in 2012. After I left my small town, I decided to attend Capital University where I went from a football addict to an athletic/documentary filmmaking professional enrolled in Capital's Electronic Media and Film program. After becoming skilled in this field, I began making my first full-length documentary on the 100th season of Grandview Heights High School Football. In order to accomplish an influential and historically accurate documentary, I personally conducted and filmed over 70 interviews with former players, coaches, and students. To present my audience with historical information with a moving plot, I documented the entire 100th season itself by recording practices, games, and events. The result is a polished 97 minute documentary that follows the most successful season in Grandview Heights history. This project gives meaning to the sport and provides an explanation on why it is more than just a game, especially to Grandview Heights.

A Brief History and Future Directions of Organ Transplantation

Amanda Rowe, Mariah Richards, Morgan Fannon

Oral Presentation: Blackmore Library 206 // 2:30 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

The field of organ transplantation has advanced significantly from its experimental beginnings and evolved into one of the most complex fields in modern day health care. Since the first successful kidney transplant in 1954, the number of individuals with vital organ failure has drastically increased, leaving a great need for organs that are viable for transplantation. A critical review of literature was performed to provide a comprehensive study of the history of transplantation, as well as to examine the immunological considerations for organ transplants. This review also highlights the current advancements being made with organ transplantation, and discusses the future directions of this field. This exploration contributes to the field of medicine by consolidating the vast amount of information on organ transplantation. It also signifies the need for transplants and informs the public so that individuals may be prompted to become organ donors and fulfill the great need that exists.

Glycogen Stores in Individuals with Cystic Fibrosis-Related Diabetes

Amanda Rowe

Oral Presentation: Blackmore Library 206 // 2:00 PM (Honors Project)

Mentor: Kimberly Heym, Biological & Environmental Sciences

Cystic fibrosis (CF) is an autosomal recessive disorder that mainly affects the respiratory and digestive systems. The mucous that is secreted in individuals with CF builds up on the pancreas, resulting in symptoms commonly seen in individuals with Diabetes Mellitus (DM). In a study performed at Case Western Reserve University, blood glucose values were taken for normal wild-type mice and CF mice after a period of fasting. The CF mice had statistically significantly lower fasting blood glucose values than the wild type mice, which was contrary to the expected result. This led to the hypothesis that there is a difference in glycogen stores between normal, healthy individuals and those affected with Cystic fibrosis-related diabetes (CFRD). Very little research has been done on glycogen stores in individuals with CFRD. This literature review explores past studies of CF, DM, and glycogen stores in individuals with CF and compiles information that could inform the direction of CFRD research. It also proposes a method of muscle and liver glycogen extraction that could be useful in future study of CFRD.

Recording Traditional Four-Part Hymns for Public Access and Use

Gretchen Rutz

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM (Honors Project)

Mentor: Tony Zilincik, Conservatory of Music

Traditional four-part hymns found in Lutheran, Methodist, and other Christian hymnals are a regular part of traditional Christian services. Consistent vocal recordings of these hymns should be available to anyone with access to the Internet. Keyboard arrangements and solo vocal renditions of hymns are found widely online, but there are no comprehensive collections of the traditional four-part hymns. Over the past year, I recorded and mastered one verse of 83 four-part hymns in the “Service Music” section of the Lutheran Service Book. These hymns were posted onto a Soundcloud website that is publicly available. This project will initiate a series of hymn recordings, making recordings of traditional hymns available to the public. When these hymns are easily found and accessible, pastors will have an easier time determining what hymns to use in the service and generations of Christians will have the ability to listen and sing along to recognizable hymns outside of their church services. As a Christian musician, along with the Lutheran traditions of Capital University, I have the privilege and the obligation to make traditional hymns accessible to everyone.

More Exercise, Better Grades? Analyzing the Correlation Between Exercise Habits and Academic Performance

Gretchen Sauder, Logan Awwiller, Tanner Zinni, Emily Waldvogel

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. VanHorn, Psychology

Previous research suggests that there is a link between exercise habits and performance in an academic setting. The purpose of this study was to investigate the relationship between college-level students' grades and their exercise frequency and habits. This study involved administering a survey to university students about their exercise habits and academic performance. We suspected that those who are more active (i.e., participate in daily exercise) would report higher GPAs and a more positive perception of their preparedness in regards to school material. Our results suggested that those who strongly agreed that they used exercise as stress relief also perceived their ability to cope with exam tension better than those who did not. This is relevant to students because their exercise habits can have a positive impact not only on their health but their academic performance.

Increased Prevalence of Celiac Disease – Possible Causes?

Michael Sauder, Katherine Escobar

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

Celiac Disease is an autoimmune disorder occurring in predisposed individuals in which consumption of gluten leads to damage of the small intestine. It is estimated to affect 1 in 100 people worldwide. Recent studies indicate that Celiac Disease is significantly more common in the current population than in past generations. Furthermore, a greater incidence of Celiac Disease is indicated rather than increased awareness or ability for diagnosis. This study attempted to review the current literature available on this topic in order to create a more concise understanding for the cause of such an increased prevalence. Insight into such a cause generally fell into two broad categories: development of progressively clean environments and environmental factors resulting in changes to dietary grains. The results of these findings may indicate possible methods for prevention of Celiac Disease improving the quality of life for future at-risk individuals.

Genetically Modified Foods: All Natural vs. Organic

Calvin Saunders, Hunter Mouser, Rachel Jerome

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

Genetically Modified Foods (GMOs) and labeling of those foods are at the forefront of controversy, partly due to the GMO industry growing faster than safety testing can be done. GMOs are organisms and foods that have been manipulated genetically in a laboratory to benefit growth, pesticide resistance, and crop yield. Currently, "all natural" has no definitive term in the United States as it is used as a labeling technique to attract buyers, while "organic" is far more regulated

with the FDA requiring at least 95% of the ingredients to not be genetically modified and be approved as organic. All natural foods are often times considered organic, but there are no guarantees with labeling and ingredients. To determine the difference between the two, DNA was extracted and observed using polymerase chain reaction to detect sequences that are common to GMO products. Samples were then run on 3% agarose gels, with positive and negative controls, and visualized with ultraviolet light after staining with ethidium bromide. More research is being conducted to determine if all natural contains some genetically modified organisms. Stricter guidelines should be set in place for food labeling to ensure health, safety, and knowledge of consumers.

Indigenism in Mario Vargas Llosa's El Halblador

Jay Scott

Oral Presentation: Learning Center 202 // 2:30 PM

Mentor: Stephanie Saunders, World Languages & Cultures

Indigenism, the representational and often the political voice of native peoples, has been a primary concern for many Latin American writers throughout literary history, especially beginning in the 20th century. This project examines ideas about the treatment of indigenous peoples in South America, specifically those in Eastern Peru during the 20th century that are expressed by the main characters in the novel *El Halblador* (1986) by the 2010 Nobel Prize winner Mario Vargas Llosa. The purpose of this research is to draw knowledge from mistakes and injustices of the past and to use that knowledge to shape a broader perspective and a more fair thought process in the future. My process included analyzing the conflicting opinions of the two main characters in the novel, researching articles by the author on the subject matter, as well as other resources dealing with social relations. I found that while most of the damage done to native cultures in the Americas is irreversible, much can be done to prevent more injustice and the deterioration of those cultures. This research provides an understanding of different perspectives on an extremely important and controversial topic in the Latin American world.

Making Today Count: Reflections of Adult Survivors of Childhood Cancer

Ashley Shahan

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Wendy Blakely, Nursing

The purpose of this qualitative pilot study is to explore the impact of childhood cancer and cancer treatment on adult survivors' outlook on life and plans for the future. Many issues confronting childhood cancer survivors remain poorly understood by their health care providers. Few studies have investigated what adult survivors remember about their illness and treatment as a child and how their childhood experiences affect their adult lives. Using interviews, the major aim of this study is to describe the memories of adult survivors about their childhood cancer experiences and how these experiences impacts their current lives and future plans. Inclusion criteria were current minimum age of 21 years old, cancer diagnosis before age 18, and at least 1 year post-completion of their most recent cancer treatment. Data were analyzed using content analysis to identify major themes among the participants' responses. The investigators plan to use this data to refine

research methods for future studies about life after childhood cancer. This knowledge will assist health care providers in meeting the unique needs of adult childhood cancer survivors.

Capital University Students' Perceptions of Media Bias

Tanya Smith

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

"The right to think is the beginning of freedom, and speech must be protected ... because speech is the beginning of thought" (Justice Anthony Kennedy, 2002). The First Amendment entrenches free speech in The Constitution, but it does not guarantee citizens the ability to spot biases and fallacies purveyed by political authorities. The depiction of media as "the fourth branch of government" attests its substantial power beyond mere reporting of "facts." To exercise free speech, each citizen must first acquire the ability to perceive biases in the media's presentation of its messages (McLuhan, 1964). Winston Churchill (1925) asserted that through repetitive opinion, media eliminates personal reflection and thinks for the average person. Leeper (2014) asserted, "because the information environment shapes the choices people can make, the information environment causes the choices that people do make." The purpose of this study is to examine the perceptions of media bias among Capital University students. This is a non-experimental survey study that will be coded for perceptions of media bias. Students will be compared based on how factors such as political ideology and party identification correlate with perceptions of media bias.

Is Nutrition Affected by Living Situations and Lifestyle Choices?

Kristen Sollmann, Alie Nolder, Kristin Tomlinson, Travis Martin

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. VanHorn, Psychology

The "freshman fifteen" is a common term used to describe the often unhealthy choices made during the transition to undergraduate student life. We examined literature on the subject to support the notion that lifestyle changes, such as housing arrangements, can have a detrimental effect on nutrition. A survey was designed to collect data on various health and lifestyle choices in university students. The data was collected online and asked questions regarding demographics, food intake, sleeping habits, activity level, etc. The data was then analyzed to determine if a relationship existed between the various factors. We hypothesized that living on campus and using university food plans would negatively affect nutrition. Our initial findings showed that a majority of students with a meal plan did not consume three meals a day, while a majority of those without a meal plan did. The findings will help evaluate if different options need to be provided for students to increase overall campus health. If nutrition is found to be negatively impacted by housing options, this research can benefit the options provided to students. Furthermore, any negative impacts could potentially be corrected for the benefit of the students.

Ethanol Effects on Embryonic Chicken Cells from Different Organs

Cory Spencer

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Karl Romstedt, Biological & Environmental Sciences

The deleterious effects of ethanol are often overlooked or ignored. Ethanol is found in products used by people on a daily basis. The purpose of this research was to show the susceptibility of different eukaryotic cell types to ethanol toxicity. Pieces of individual organs derived from chicken embryos (eye, skin, heart, liver, and muscle) were digested using trypsin, which is a pancreatic protease. This process provided free cells that were liberated from the tissues of each organ. Cells were then divided into 24-well plates and exposed to ethanol or a control for 22 hours. The final concentrations of ethanol used were 1%, 2%, 4%, 6%, and 8.6%. Cells were later counted from each well to measure the percentage that had survived. The data gathered showed that increasing the amount of ethanol led to increased cell death. This is important because humans are often exposed to ethanol. A better understanding of the effects of ethanol toxicity on cells could dissuade people from indulging in unnecessary ethanol exposure.

Pretty Good, for a Girl: The Unsung Trials of Women in Jazz

Rachel Spencer

Oral Presentation: Blackmore Library 206 // 3:30 PM

Mentor: Dina Lentsner, Conservatory Of Music

Despite notable progress throughout history, sexism and discrimination still run rampant in our society. The performing arts do not differ from other male-dominated careers as female jazz musicians, specifically, instrumentalists, have always been faced with significant hardship in the field due to their gender. In this presentation, I argue for the necessity of revising the current jazz education system to incorporate contributions of the female jazz musicians. Early jazz source makes note of several gifted instrumentalists such as Tiny Davis and the performers of the International Sweethearts of Rhythm, as well as Lil Hardin Armstrong, but these women were largely viewed as a novelty. This situation did not improve until the women's movement, and despite the strides of many female instrumentalists and band leaders from the 1960s up until present day, including Maria Schnieder, Toshiko Akiyoshi, and Ingrid Jensen, the jazz education system does not emphasize these musicians for their important contributions to the genre. The lack of well-known role models for young female performers keep many women intimidated and feeling unwelcome in the jazz community, ultimately depriving the musical world of potential female jazz stars.

Concussion Prevention Techniques for Adolescents

Melissa Spurbeck, Michelle Heckman, Ivan Villaneda

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Bonnie Goodwin, Health & Sport Science

This presentation describes the actions of promoting concussion awareness and how to properly head a soccer ball to coaches, parents, referees, and young athletes in the Pataskala, Ohio, area. The

audience was educated through a brief presentation, pamphlets, and posters clearly detailing the main topics in concussion management, prevention, concussion laws, and where to turn if one believes an athlete may have sustained a concussion. Athletes who attended the presentation received information on how to head the soccer ball, and why they should report concussion-like symptoms. In addition, parents and coaches gained knowledge and understanding about when they should introduce heading, how to properly perform the motion, how to recognize a concussion, and the reasoning behind withholding an athlete from participation. Through this process, we gain the satisfaction of sharing knowledge about concussions, as well as teaching helpful techniques for heading to help prevent concussions in young adolescents. The inclusion of concussion laws can protect referees who are trying to properly implement it.

Sesamoid Stress Fractures

Melissa Spurbeck

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sport Science

Sesamoid disorders are a common cause of forefoot pain, especially in athletes. The sesamoid complex can be affected by significant mechanical stress and anatomic variations causing numerous pathologic processes. The range of etiologies is broad, but the main focus of this study is stress fractures specifically to the first metatarsal. Treatment options include conservative management with orthotics and immobilization, as well as, operative interventions that involve a sesamoidectomy. This study aims to outline common pathologies, the benefits and risks of operative and non-operative management, and set-backs that may occur during surgery and or rehabilitation. A detailed rehabilitation protocol was included, allowing clinicians to have a clear idea of what exercises they should be performing with their athlete to return them back to sport in a safe and timely manner. Through the collection of data from peer reviewed articles, knowledge of management and rehabilitation for a first metatarsal sesamoid stress fracture will be gained.

Read-aloud: Cultural Awareness or Missed Opportunity

Joseph Spurlock

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Olga Shonia, Education

Read-aloud is an activity that stimulates students' imagination, models good reading behavior, and encourages a lifelong enjoyment of reading (Ada, 2014). For the child, illustrations and text help create particular views of individuals and groups of people – complete with messages about the characteristics of other cultures (Mendoza, 2001). Culturally relevant read-alouds are an excellent choice for English language learners (ELL) and other minority groups who experience identity struggles (Nieto, 2004). As classrooms become increasingly diverse, we chose to examine if teachers' choice of reading materials reflects the cultural, linguistic and social composition of their classrooms. A survey instrument was designed and distributed in two types of school settings: predominantly urban (high percentage of students on free/reduced lunch, ELLs), and predominantly suburban. We sought to

answer if elementary school teachers consider their students' cultural background when choosing materials, specifically books for read-alouds. Preliminary results indicate that in both settings the reading materials featured predominantly white middle class characters, or animal main characters, thus missing the opportunity for students to engage with authentic folklore and multicultural literature. We argue that teachers are obliged to engage with students' backgrounds and life experiences, and will present our recommendations for multicultural reading materials.

The Coalition Upheavals of the Republican Party

Matthew St. Clair

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

The Republican Party is suffering an identity crisis. Currently, as the 2016 Presidential primaries proceed, the party's factions continue to intensify divisiveness. This study analyzes the demographics, stances, and political leanings of Republican Party voters (PEW, 2016) in order to determine the discrepancies between the "establishment" image of conservative Republicanism and the actual attitudes of multiple Republican constituencies. This research investigates the growing popularity of populism, nationalism, and libertarianism among Republicans alongside the Republican "establishment," as well as new forces undermining establishment power and credibility (Dionne, 2016). Republican primary campaign speeches are also scrutinized to determine the new messages candidates must adopt to forge a viable Republican coalition. Data was collected from books, presidential campaign media, newspapers, academic journals, think tanks, and polling centers. My findings indicate voters prefer a candidate-focused campaign instead of a party-focused one, and prefer pragmatism to traditional ideology. In addition, voters are more concerned with solving issues that directly affect their lives as opposed to basing their partisanship on ideology. This study improves political scientists' understanding on the shifting values of Republican voters and can provide vital insight for Republican strategists and candidates.

Constructing Moral Minds: Infinite Jest, Postsecularism, and Shaping the Moral Imagination

Kayla Stalnaker

Oral Presentation: Battelle 254 // 3:00 PM

Mentors: Nate Jackson, Religion & Philosophy; Kevin Griffith, English

Read through a postsecular lens, David Foster Wallace's postmodern novel *Infinite Jest* helps readers to understand the function of the moral imagination. The philosophical capacity called moral imagination allows a reader, or onlooker, to interpret a situation through habitual sympathetic processes. We can, I argue in my literary analysis, think of the moral imagination as a "wardrobe that furnishes habitual ideas" (Bromwich). One of the ways we fill our "wardrobes" is through sympathetic engagement with characters in novels. I use *Infinite Jest's* main character, Hal Incandenza, as a case study to illustrate that post-secular interpretations of text help us to understand the process of adding ideas to our moral wardrobes. Postsecularism is a burgeoning area of critical theory that suggests that reading literature can become

a spiritually and morally transformative experience without relying on particular doctrinal commitments. Postsecular novels “tell stories of new forms of religiously inflected seeing and being” (McClure) and allow us to create meaning and morality from postsecular texts. Postsecular interpretations of texts like *Infinite Jest* draw our attention to morally significant attitudes, and as such they should be considered exercise of moral development, not just for characters but for readers as well.

Accounting for All Students: Effective Teaching Strategies for Students with Autism Spectrum Disorder. Notes from the Field.

Lauren Stefancin

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Olga Shonia, Education

The number of children diagnosed with Autism Spectrum Disorder (ASD) is continuously growing, and has now reached 1 in 68 children (ASD Foundation, 2012). The United States educational system has seen an average increase of 800% in the number of students with ASD since 1992 (Crosland, 2012). CARES is Cardinal Autism Resource Education School in Mentor, Ohio, where I have been working for the past four years. I use this site to report on engaging assistive technology, manipulatives and hands-on materials utilized by CARES' teachers as effective teaching practices. Throughout the entire experiential learning process during this project, I have found that students with ASD benefit the most from doing daily work designed to be authentic and purposeful. Examples of this effective praxis include facilitating communication for students with ASD, using assistive technology tools such as SmartBoard technology, and iPads with specifically designed applications for students with non-verbal autism (e.g., scheduling app that allows students to have visual scaffolding of their everyday tasks). Through this experiential learning with CARES, several types of effective teaching strategies have been identified, and will be shared at the symposium as recommendations for general education teachers to implement in their classrooms for students with ASD.

How Can We Improve Students' Writing Skills and Self-Assessment?

Emma Stevens, Megan Causey, Hannah Butler, Lindsey Eversole

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentors: Andrea M. Karkowski, Bruce Epps, Psychology

According to previous research, in order for recent college graduates to succeed in any industry, it is important for students to learn effective communication skills and self-assessment practices (Stevens, 2005; Taras, 2002). To help Capital University students build these skills, the Writing Center provides writing tutors. The purpose of this project was to evaluate Capital University's Writing Center using a rubric that both tutors and clients complete after their tutoring sessions. The findings of this study reflect the student clients' perception of the Writing Center and allow the tutors to adapt to the needs of the students. This study provides information about how students can develop the soft skills needed for a competitive job market along with supplying Capital University with the ability to better assist its students.

Student Stress Among Conservatory Students

Valerie Szabo, Cassandra Stokes

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

When students are unable to cope effectively with stress, they are likely to struggle academically and experience decreased life satisfaction (Holinka, 2015). In the past year, Capital University's Conservatory of Music has noticed an increase in the amount of stress students are reporting. This stress has been associated with decreased academic achievement and musical performance ability. The purpose of this study was to examine the stress and coping skills among music students and to determine whether music students were different from non-music students in how they experience and cope with stress. Students completed a survey containing a stress scale and a coping scale. Results reveal the extent to which music students are different from non-music students and how stress and coping differ across class year. Faculty can use these data to better understand student stress and develop actions to remedy the problem.

Deficiencies in Children Linked to Malnutrition

Mollie Tarski, Lauren Lustrri

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Kerry Cheesman, Biological & Environmental Sciences

Malnourished children have an increased risk of dying, and most deaths are caused by infectious diseases due to impaired immune functions in the body. Many areas of the body can be affected, including the gut-barrier function, reduced exocrine secretion of protective substances, and low levels of plasma. Lymphatic tissue in the thymus can also degenerate, causing reduction in delayed-type hypersensitivity. Marasmus is one type of malnutrition disease caused by a lack of protein and energy, which can cause the weight of a child to be significantly low for their age. Kwashiorkor (the leading cause of death in children) is also caused by a lack of protein. The effects can vary from child to child, but many complications (including death) may be irreversible. When receiving vaccinations, a malnourished child will produce few antibodies. This can make a child more prone to disease and unable to fight off infection. In the present study a variety of published reports on the immunological effects of malnutrition in children were assessed to learn more about ways to lower childhood mortality rates.

The Effectiveness of Endoscopic Surgeries for Carpal Tunnel and Cubital Tunnel Syndrome

Kelly Taylor

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sports Sciences

Carpal tunnel syndrome and cubital tunnel syndrome are the most common nerve entrapments in the upper extremity. Entrapment neuropathy is caused by pressure or compression of a nerve by its surrounding structures. Athletes are more susceptible to this injury due to repetitive stresses on the elbow and hand, especially in baseball players. Many conservative managements have failed to

treat the symptoms of pain, numbness, and paresthesia. One of the best ways to treat nerve entrapment syndromes is with a minimally invasive endoscopic surgery. The purpose of this paper is to research endoscopic surgeries and show how effective surgical intervention is at lowering the risk of nerve damage, preventing reoccurring symptoms, and having a faster recovery. Out of 176 patients who underwent endoscopic carpal tunnel release, 93% had little to no pain and a decrease in symptoms after a one-year post-operative visit. A rehabilitation program will normally last 2-4 months before the athlete can return to sport, assuming no significant issues. Research is progressing on ways to prevent and treat carpal tunnel syndrome and cubital tunnel syndrome. Evaluating new research is essential to aid patients in returning to sport safely and efficiently.

The Stress Response in Intramural College Athletics

Sarah Taynor, Dominick Allen

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentors: Kimberly Heym, Kerry Cheesman, Biological & Environmental Sciences

Participation in competitive sports has been shown to stimulate the stress response via the Hypothalamus-Pituitary-Adrenal (HPA) axis, which then causes the release of cortisol from the adrenal glands into the bloodstream. However, similar studies have not been performed on less competitive intramural athletes. Blood cortisol levels can be inferred by measuring cortisol in saliva. Salivary cortisol levels of intramural college volleyball players (n=24) were compared to control students under identical playing conditions (n=28). Salivary cortisol was determined using a cortisol ELISA kit. Because stress also stimulates the sympathetic nervous system, pulse and pupil diameter were measured. Measurements taken immediately before and after each game were analyzed using Mixed ANOVA and Student's t-test. Results showed average pupil diameter and pulse of intramural players were higher than that of the control group. Cortisol levels for intramural players were higher than controls, though not significantly. Further research with more participants could yield greater significance in data, further confirming athletic competition elevates stress response.

Updating Comparable Worth

Cassidy Teminsky

Oral Presentation: Battelle Hall 103 // 2:30 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

Comparable worth, or "the concept of equal pay for dissimilar jobs of equal value to an employer," was supposed to be a defining social issue of the 1980s (Gleason & Moser 1985). Proponents of the theory questioned the ability of the market to determine a fair wage for women, particularly when primarily female jobs pay less than primarily male jobs (Levine, 2001). Comparable worth theory lost support throughout the 1990s, and is largely undiscussed today. In my research, I evaluated comparable worth concepts and laws to determine whether there is a place for the theory in contemporary society. Through policy analysis, I assessed the successes and failures of comparable worth and proposed a more modern solution. I anticipate finding that comparable worth clashes with the current viewpoints on

gender equality, but offers ways to close the gap between male and female earnings. However, comparable worth calculations must be re-evaluated for the theory to work. Reintroducing comparable worth theory brings a unique viewpoint into the gender pay gap discussion, and addresses the undervaluation of primarily female jobs.

Taping Ankles, Saving Lives: The Five Domains of Athletic Training

Emily Thornton, Gennifer Vandeventer, Caitlyn Toulous

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Bonnie Goodwin, Health & Sport Science

Athletic training is a highly misunderstood occupation and those who are involved are not well recognized for all of the roles that they play in the field of health and sport sciences. With our research and clinical experiences, we plan on advocating our profession to high school students at Upper Arlington High School by teaching them the five domains of athletic training. The five domains of athletic training are: injury/illness prevention and wellness protection, clinical evaluation and diagnosis, immediate and emergency care, treatment and rehabilitation, and organizational and professional health and well-being. We demonstrated ankle taping and bracing, a SCAT/concussion test, spine-boarding, ice bag preparation, stretching techniques, and discussed the emergency action plan (EAP) at Upper Arlington High School. We brought the necessary equipment to present these domains which includes tape, an ankle brace, and a spine board. These five domains encompass the goals of our profession, and it is important that we make these students aware of a growing and vital occupation.

Medial Meniscectomy Repair & Rehabilitation

Emily Thornton

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sports Sciences

Medial meniscus tears with no ligamentous involvement commonly occur in the middle-posterior segment of the meniscus among the athletic community. The meniscus is a crescent-shaped fibrocartilaginous structure that serves as a shock absorber of the medial and lateral portions of the knee joint. The meniscus helps spread the load of the body's weight amongst the knee joint to disperse any tension or torsion forces. There are several different ways to repair meniscal tears depending on the type of tear, location, or vascularity of the meniscus. The purpose of this paper was to perform a literature review on several surgical techniques and rehabilitation protocols for meniscectomy. A typical medial meniscectomy will withhold an athlete from sport for at least four to six weeks, but it could take up to four to five months for an athlete to be fully prepared to return to full activity. It is imperative that an athlete restore their strength and range of motion by participating in a physical therapy program after surgery. It is important that these techniques and protocols be examined so that a standard procedure is determined and an exercise program is established that will facilitate healing as fast as possible.

“When I Kissed the Teacher” – Screenplay Analysis

Matt Torsell

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Betsy Pike, Communication & Art

For my abstract, I wrote a short screenplay detailing the affair between a female high school gym teacher and a 15-year-old student. Originally inspired by a 2009 *Rolling Stone* article, I researched films with similar subject matter as well as the films of Paul Thomas Anderson, whose tone I tried to emulate partially. I wrote this to use as my Capstone project and to eventually film. I conducted this project by doing the proper research and talking to my faculty mentor each week about ways to edit and improve my script. I found that in similar films, student-teacher affairs are often used comedically, although the few films with a female teacher were often more serious in tone. This work is important because although there are similar films, it is a serious subject matter that occurs in real life, and is often not portrayed in films. I gained some important tips to the screenwriting process as well as the opportunity to address a serious topic through my work.

A Systems Approach in Child Abuse Prevention and Public Awareness Programs

Amber Triplett, Josie Laib

Oral Presentation: Learning Canter 102 // 3:00 PM

Mentor: Saleem M. Saleem, Social Work

The focus of this study is to explore child abuse prevention and public awareness programs in the state of Ohio. Although the definition of child abuse varies from state to state, professional literature suggests abuse can be physical, emotional and/or neglect involving denial of essential care that permits a child to grow and develop at a normal rate. The devastating consequences of child abuse can range from low self-esteem to severe psychiatric disorders, including both cognitive and behavioral problems, and a cycle of abuse being perpetuated. This is a challenging social issue involving numerous professionals, social service agencies and the public. It requires a systems approach to problem solving. This study might help the state of Ohio to serve as a caretaker to all children and protect them from abuse and neglect at home. The recommendation of the study is to raise public awareness on the issue and offer education around prevention strategies as well as protective services that address the key contributors of child abuse within the family environment.

Radial Head Fracture Management and Rehabilitation

Caitlyn Tulloss

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sports Sciences

Chronic elbow injuries are common in sport. Injuries can create unique and sport-specific patterns in athletes when they repetitively perform overhead motions, such as throwing. This creates chronic stress on the elbow anatomy; however, acute injuries can occur when the athlete experiences a direct blow to the elbow. The radial head stabilizes the elbow and forearm, and when the radial head is fractured it must

be positioned correctly for proper healing. This study outlines the classification of elbow and radial head fractures, surgical treatment, and rehabilitation protocols needed to return the athlete back to sport. Through the collection of data from peer-reviewed articles, open reduction and internal fixation surgical techniques were examined, as well as a variety of progressive strengthening exercises. Athletes experience four phases of rehabilitation: the immediate phase, the intermediate phase, the advanced strengthening phase, and the return to play phase. Knowledge of traumatic elbow fractures and the proper rehabilitation will be achieved through this literature review. This information can be used by athletes and athletic trainers to promote effective recovery following a radial head fracture.

Discover Columbus: Producing a Travel Documentary for Dummies

Joshua Vanderzyden

Oral Presentation: Blackmore Library 115 // 2:00 PM (Honors Project)

Mentor: Betsy Pike, Communication & Art

In the fall of 2015, I had the opportunity to produce a travel documentary for my honors capstone titled Discover Columbus. After interning at an Emmy-winning travel show at NBC in New York, I was inspired to try and replicate the process to see if I could apply what I had learned in and out of school over the past four years. I was successful in the project by using NBC's method of creating documentary-type television, learned about the craft of video production, and developed my own personal interests. By the end of the process, I had created content that can hopefully inspire other creators to follow their passions, be driven to break the mold and film what they want to film.

The Profession of Athletic Training

Joseph Vassaux, Kaylee Hurst, Amber Martinelli

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Bonnie Goodwin, Health & Sport Science

The purpose of this project is to explain and promote the profession of athletic training to a group of students at Hilliard Bradley High School. We hoped to increase their knowledge about athletic training and what we do because of the general lack of information. A literature review was conducted to retrieve information about the impact athletic trainers have on sports medicine. During this presentation, we discussed topics including: the background of athletic training, the five domains of athletic training, and the athletic trainer's role in catastrophic injuries and death. We found that athletic trainers play an important role in many situations that the students did not know about. We hope to inform students about how they can make an impact in sports medicine by pursuing the athletic training profession with this presentation.

Rehabilitation of a Sports Hernia

Joseph Vassaux

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sport Science

Sports hernias are an injury with increasing incidence and little knowledge. It is commonly diagnosed in athletes who participate in frequent weight-shifting such as soccer, football, and rugby. The sports hernia presents itself as chronic hip pain, which can make it difficult to diagnose. A literature review was conducted of scholarly articles discussing sports hernias, surgical intervention, and the rehabilitation post sports hernia repair. A case study is included as well to compare literature to clinical practice. After a vast literature review, a surgical mesh repair of a sports hernia is found to have the best results. An extensive rehabilitation program is often required to return the athlete back to pre-injury performance. Researching treatment and rehabilitation of sports hernias is important to provide an evidence-based approach on the management of this increasingly common injury.

Elbow Ulnar Collateral Ligament (UCL) Reconstruction

Ivan Villaneda

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Sarah E. Clagg, Health & Sport Science

Ulnar Collateral Ligament (UCL) instability in the elbow used to be a death sentence to an athletic career. This changed after Dr. Frank Jobe successively reconstructed pitcher Tommy John's UCL in 1974, revitalizing his career. The UCL is essential for valgus stability at the elbow and without it, it is nearly impossible to perform dynamic movements like overhead throwing. UCL reconstruction now more commonly known as "Tommy John Surgery" has evolved into a more reliable procedure in the years after Dr. Jobe's original surgery thanks to a modern muscle-splitting approach and preferred figure 8 docking technique that have subsequently increased the surgery's success rate. Several sources were reviewed to gain further understanding about this modern surgical approach and the benefits from this procedure as well as further understanding of how this injury occurs. Post-surgical rehabilitation for this injury will also be discussed. This research is valuable due to the increased occurrence of UCL reconstructions being conducted using modern techniques and an increase in the rehabilitation that follows.

The Implementation of Light Therapy on Adult Patients with Seasonal Affective Disorder (SAD)

Mary Vitullo, Angela Alexander, Janet McKalip

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Mary Burkett, Nursing

The occurrence of Seasonal Affective Disorder (SAD) is a prevalent issue in areas of the country that experience darkness with seasonal changes. SAD causes depressive symptoms that cost patients and hospitals billions in treatment with medication (\$16.1 billion per year). The purpose of this evidence-based practice project was to investigate

how adult patients with SAD respond to light therapy. The project used a background search with meaning and intervention PICOT questions to guide the search. Best existing evidence was used in this evaluation of outcomes, which included using standard light, blue light, and bright light to treat adults with SAD. Qualitative studies were also examined to understand what it is like for patients to experience SAD. The results demonstrated that light therapy improved SAD no matter what light source was used. This evaluation shows a cost-effective and non-pharmacological methodology for patients with SAD. This investigation also allowed the students to understand the process of utilizing best existing evidence to guide evidenced-based practice and its application to medical environments.

Reflections on Different Parenting Styles in China and the USA

Fei Wang

Oral Presentation: Blackmore Library 115 // 3:30 PM

Mentor: Sharon Croft, Communication & Art

Parenting is a shared concern, whether one has children or not. Specific parenting styles are shaped by multiple factors. In my presentation, I examine how important cultural values and specific patterns of communication influence parenting in China and America. According to Baumrind (*Effects of Authoritative Parental Control on Child Behavior*) and Seshadri (*Parenting: The Art and Science of Nurturing*), one can classify parenting styles along the following lines: Authoritarian, Authoritative, Permissive, and Indifferent. In this presentation, I argue that the dominant parenting style in China is authoritarian while the most-practiced parenting style in America is the authoritative style. I discuss how parenting styles in China and America mold the health, personalities, and whole lives of the children in these countries. I also discuss how globalization has altered parenting in both countries.

Political Slacktivism and Sharing Social Media

Camille Wells, Simon Nichols, Malik Holmes

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Andrea M. Karkowski, Psychology

The term "slacktivism," a combination of the words "slacker" and "activism," increasingly has been used to describe the disconnect between awareness and action through the use of social media (Glenn, 2015). Slacktivism is the tendency to share information via social media about a cause or belief without investigating the veracity of the information being shared. Little empirical research has been done on slacktivism to date. The purpose of this study was to examine slacktivist tendencies of college students and associate those tendencies with extreme political beliefs. We used the Schwartz Values Scale (Johnston & Wronski, 2015) to measure political beliefs. Participants also completed survey items about social media use, including behaviors that would meet the definition of slacktivism. Our sample comprised 17 college men and 80 college women. Results indicated that students who identified as conservative were more likely to demonstrate slacktivist tendencies. Students who considered themselves activists were more likely to research opposing views regarding a topic they felt was important. More students

leaning toward conservatism identified as activists than students who considered themselves more liberal. This research extends the previous research about slacktivism and demonstrates a tentative link between slacktivism and political beliefs.

Alfred Hitchcock's Leading Ladies: An Analysis of the Female Leads of Hitchcock's Classic Films

Destiny White

Oral Presentation: Battelle 126 // 1:30 PM

Mentor: Dan Heaton, Communication & Art

Alfred Hitchcock is one of the most famous and often analyzed film directors of the 20th century. After reviewing previous studies of Hitchcock's films I decided to analyze his body of work from a feminist perspective as described by Sellnow in *The Rhetorical Power of Popular Culture*. Although previous studies have examined the importance of the female characters as objects of attraction for male characters, I determined that Hitchcock's use of female characters evolved over time. I classified his female characters, both supporting and leads, into four types: the mother, the naïve woman, the wise brunette, and the sexual blonde. By analyzing these characters through a radical feminist lens, contemporary viewers can see how, even in a patriarchal society, female gender roles as portrayed in film can offer glimpses of empowerment for women.

Grit and Academic Behaviors

Allison Wilkie, Meghan Donelson

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentors: Andrea M. Karkowski, Jodi S. Fournier, Psychology

Grit is a trait that feeds college students' drive, motivation, and perseverance (Wolters & Hussain, 2015). Grit often is linked to a variety of characteristics that seem to predict success in students. For example, Wolters and Hussain found that students who stick with goals value their school work more than students who do not persist with goals. We partially replicated and extended the research by Wolters and Hussain by asking: Is grit related to academic behaviors (including procrastination) and the need for cognition (NFC)? The hypothesis for this study was that students that have more grit are more academically successful and have a higher NFC. Variables were measured using the grit scale (Wolters & Hussain, 2015), a procrastination scale, a need for cognition scale (Cacioppo et al., 1984), and academic and demographic questions we created. College students (N = 241) were surveyed online. The results showed a direct relationship between grit and NFC and inverse relationships between procrastination and NFC as well as procrastination and grit. This research shows how grittier students have better academic behaviors. Grit is an important factor in students' academic success.

Martin Scorsese and the Catholic Influence

Michael Williamson

Oral Presentation: Battelle 126 // 2:00 PM

Mentor: Dan Heaton, Communication & Art

Martin Scorsese is one of the most significant American filmmakers in history. I looked at several articles which illustrated aspects of filmmakers and their work, most of which examined their visual style. My analysis focused on how growing up Catholic strongly influenced Scorsese's themes and imagery in his storytelling. I did an auteur analysis of Scorsese by watching a selection of his films from four decades of his career, focusing on the appearance of Catholicism. His use of religious themes to develop character was the most apparent, but also his reliance on Catholic iconography. It showed how the influence of religion and its history can inform aspects of art that seemingly have no other connection. This work is important because it demonstrates the very definition of communicating ideas or principles through a particular medium. Scorsese was able to extend the experiences and knowledge of his upbringing to inform his work as an artist. My analysis has broadened my view of films and their meaning, which, more importantly, helped to widen how I look at all forms of communication.

CAPITALize: Communication Audit of Traditional Undergraduate Prospective Student Recruitment – Teacher Education Program at Capital University

Emily Wiseman

Oral Presentation: Battelle 126, 2:30 PM

Mentor: Dan Heaton, Communication & Art

Capital University's Admission and Education departments bear responsibility for recruiting teacher education students to their undergraduate bachelor's degree program, in the midst of local competitors and alternate certification programs. Coffman's "Strategic Communication Audit" model allows non-profit groups to evaluate the effectiveness of their present communication practices, and enables a communication professional to make recommendations regarding practice improvement or new practices. After surveying current Capital University education students through SurveyMonkey and current Capital University education faculty and admission staff through GoogleForms, I evaluate the effectiveness of our current communication practices with prospective undergraduate students, and propose suggestions based on data. I propose that more communication between the admission and education departments, more frequently updated and evaluated publications, utilizing current student teachers as program ambassadors, and a teacher education-specific visit day would largely benefit the communication of Capital University's teacher education program with its public. I also reflect on the effectiveness of this study and recommend future extensions of this research.

Exploring the Reform of Regulations Governing Lung Donation in the U.S.

Jesse Wood

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Suzanne M. Marilley, Political Science & Economics

Deaths in the United States due to scarcity of organ donors stand at an average of 22 people a day (UNOS, 2016). Through my research, I discovered how many of these deaths could have been avoided if regulatory practices such as the ability to sell one's own organs for transplantation, the ability of death row inmates to donate organs or to exchange a kidney or bone marrow for a commuted sentence of life in prison without parole, or the protection of someone's choice to make organ donations be made to override any potential blocks by relatives, were changed (Abouna, 2008). My research focuses on lung transplantation, particularly in light of recent improvements in lung transplantation. The purpose of this research was to find the relationship between the deaths of potential organ recipients and the regulatory practices that withhold lung donations. I used content analysis and policy analysis as a mixed methods approach. I found that if organ donation policies and regulations changed, we would decrease the number of people who die each year. This study builds knowledge on the politics of organ donation.

Horror Cinema and Its Relation to Trauma and the Fear Response

Dana Wrubleski

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Michaele Barsnack, Communication & Art

It is human nature to be drawn to ghouls and gore. A direct correlation can be made between horror cinema and national trauma. It is found that viewing horror cinema has the ability to begin healing personal and national trauma (Blake, 2008). Likewise, it is found that horror cinema has the ability to worsen certain forms of mental illness, such as post-traumatic stress disorder, through cinematic neurosis (Ballon & Leszcz, 2007). This review of literature focuses on the history of horror cinema, the fear response, the attraction to horror, and the relation to trauma. The topic was investigated through a review of books and articles written on the subject of horror cinema, and the subject of human response to horror. Understanding the fear response to horror through cinema will help to better understand the national response and human reaction to things that make us afraid.

Euthanasia Then and Now, a Trend Toward Pro

Sarah Yarano, Naomi Zulauf, Teea Cesare

Poster Presentation: Capital Center Field House // 11:30 AM - 1:00 PM

Mentor: Nicholas M. VanHorn, Psychology

Looking back 50 years ago, euthanasia was taboo and illegal. Today, various states and countries on the whole have begun to legalize euthanasia. In this study, we compare the views of present day university students to views from the last 50 years. Data was collected via an online survey and amassing data from existing public sources. We predict that our findings will show more pro euthanasia opinions relative to the past. The research and anticipated opinion trends can

help to predict future law and positions for or against euthanasia. Our results suggest an increasing pattern of acceptance of euthanasia and doctor-assisted suicide among even conservative and religious individuals, two groups that have historically opposed such ideals.

Meaning of Life and the Inevitability of Suicide in Miguel de Unamuno's Niebla

Dominic Zumpone

Oral Presentation: Learning Center 202 // 3:30 PM

Mentor: Stephanie Saunders, World Languages & Cultures

Philosophy has been around since man began to use the faculty of reason in an attempt to solve problems concerning metaphysics, epistemology, logic and ethics. The biggest question that has mystified humanity has been that of the meaning of life: deciding whether or not life is worth living. The prominent Spanish writer, philosopher and educator, Miguel de Unamuno, in his famous novel *Niebla* (1914), confronted this question and many other existential ponderings with gravity and humor. This investigation was designed to explore various concepts in the novel associated with a meaningful life, such as love, function and beauty, for example, to determine whether or not suicide was the inevitable outcome. The writings and basic philosophical principles of 20th century philosopher Albert Camus were applied to analyze this constant theme and preoccupation in Unamuno's work. In the novel there were many reasons that could have given life meaning, and yet the protagonist dies ambiguously in the end. The results of this investigation enhance the endless dialogue on the search for the meaning of life.

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NCUR 2016

The following Capital University students presented their research at the 30th National Conference on Undergraduate Scholarship (NCUR) held April 7-9, 2016, at the University of North Carolina Asheville in Asheville, North Carolina. Abstracts can be found at https://www.cur.org/ncur_2016/account/?search=true.

Christopher Hines

The Kodály Method: the Keynote to Better Brass Playing

Mentor: Thomas Zegger, Conservatory of Music

Leah Marty

The Uncanny in "Casa Tomada" by Julio Cortázar

Mentor: Stephanie Saunders, World Languages & Cultures

Autumn Laws

An Infinite Work of Art: A Possible Solution to Digital Fiction's Flaws

Mentors: Kevin Griffith, Sergey Rybas, English

Wenxin Guan

Playing Bach Responsibly: Exploring Historically Informed Performance Practice of The Well-Tempered Clavier

Mentor: Dina Lentsner, Conservatory of Music

Maura Fortino

Analyzing the Rock the Vote Campaign: Is Rock the Vote Putting on the Campaign it Says it is?

Mentor: Lois Foreman-Wernet, Communication & Art

Oscar O'Flaherty

Mathematics of Juggling

Mentor: Jonathan Stadler, Mathematics, Computer Science & Physics

Ariel Webb

Toward Integrity: Pierre Hadot and Reconceiving Ethics Education

Mentor: Nate Jackson, Religion & Philosophy

Rachel Arnold

Gender Microaggressions

Mentor: Andrea M. Karkowski, Psychology

To I-70

Kroger
Jeni's Ice Cream
Moshi Sushi
Rusty Bucket

Così Bexley City Hall

Drexel Theatre
C'est Si Bon
Giuseppe's
Cherbourg Bakery

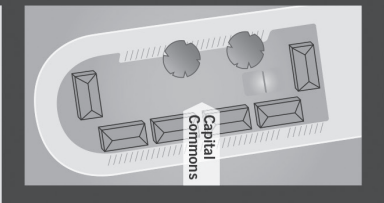
Graeter's Ice Cream

Christ Lutheran Church

Zoë Cafe

Zen Cha Tea
Aab India

Starbucks
Chipotle
Penn Station
Bruegger's
CVS
Rubino's Pizzeria
Bexley Pizza Plus
Johnson's Ice Cream
Café Istanbul
Piada
Jimmy John's



Capital Commons

Trinity Lutheran Seminary

Trinity Seminary
Public Safety

Admission and Welcome Center

Convergent Media Center
(under construction)

Renner Hall

Memorial Gateway

Health and Wellness Center

Battelle Hall

Backmore Library

Kerns Religious Life Center

Ruff Learning Center

Mess Auditorium

Conservatory of Music

Saylor-Ackermann Hall

The Capital Center

Bemlorh Stadium

Anthony's Pizza

Bexley Library

EAST MOUND STREET

SHERIDAN AVENUE

COLLEGE AVENUE

Huber-Spielman Hall

Yochum Hall

Lohman Complex

Alumni House

FRANKLIN AVENUE

College Avenue Residence Hall

Honors House

Harry C. Moores Student Union

Schaaf Hall

Cotterman Hall

ASTOR AVENUE

EAST MOUND STREET

PLEASANT RIDGE AVENUE

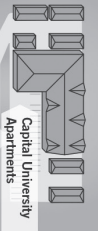
EUCLAIRE AVENUE

EAST MOUND STREET

N

P Visitor Parking

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Capital University Apartments

Directions to Campus

From the North or South:
Travel I-71 to the Broad Street exit. Turn east (driving away from downtown) onto Broad Street and drive 2.5 miles to Drexel Avenue in Bexley. Turn right onto Drexel Avenue and continue south until Drexel ends in front of the campus at Main Street. Turn left (east) onto Main Street. At the next light, Pleasant Ridge Avenue, turn right (south).

From the West:
Travel east on I-70 to the Bexley/Main Street exit. Exit at Bexley/Main Street. The exit ramp automatically turns onto Alum Creek Drive, which will dead end at Main Street (in front of the Kroger store). Turn right (east) on Main Street. At the fourth traffic light, turn right (south) on Pleasant Ridge Avenue.

From the East:
Travel west on I-70 to the Livingston Avenue exit. Turn left (west) on Livingston Avenue. Turn right (north) at the first traffic light onto Alum Creek Drive. When Alum Creek dead ends in front of the Kroger store, turn right (east) on Main Street. At the fourth traffic light, turn right (south) on Pleasant Ridge Avenue.

From the Northwest:
Travel south on I-75 to Route 23. Follow Route 23 into Columbus and take I-270 east to I-71 South. Travel south on I-71 to the Broad Street exit. Turn east (driving away from downtown) onto Broad Street and drive 2.5 miles to Drexel Avenue in Bexley. Turn right onto Drexel Avenue and continue south until Drexel ends in front of the campus at Main Street. Turn left (east) onto Main Street. At the next light, Pleasant Ridge Avenue, turn right (south).

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Symposium on Undergraduate Scholarship Planning Committee

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Special Thanks

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Aramark

The Capital Center Staff

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Office of the President, especially Denvy Bowman and Nichole Johnson

Office of the Provost, especially Richard M. Ashbrook and Terry Lahm

Publications and Marketing Office, especially Denise Russell

Keynote Prelude Music – A Minor Transgression Brass Quintet
Jane Sycks, trumpet; Steven Jacobs, trumpet; Lilly Watters, horn;
Alex Murphy, trombone; David Coulter, tuba; Dr. Thomas Zuger, coach

Poster Session Music – Jazz Consort
Rachel Spencer, trumpet; Nate Bishop, saxophone; Andrew Hawk, vibes; Harrison Belew, guitar; Jacob Campbell, piano; Tyler Rucker, bass; Adam Hoffman, drums; Rob Parton, director

Wind Quintet
Nichole Carper, Maribelle Fernandez, Allison Nees, Yuki Okabe, clarinet; Dr. Gail Zuger, coach

Program Cover and T-shirt Design: Meredith Coleman with faculty mentor Jeff Shaw