GRADUATE RESEARCH CONFERENCE

Development

Design

Discovery

2018

EASTERN MICHIGAN UNIVERSITY

COLLABORATIONS: RESEARCH FOR THE COMMUNITY AND THE WORLD

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Welcome to the 2018 Graduate Research Conference!

On behalf of the Office of Graduate Studies and Research, I welcome you to the 2018 Graduate Research Conference.

The GRC is an event that combines two primary missions of the Office of Graduate Studies and Research. The Office of Research Development and Administration supports and promotes all research activities at EMU, including the GRC. Meanwhile, the Graduate School supports academic programs that emphasize the highest forms of intellectual development in each discipline, which includes the creation of the new knowledge that you see at the GRC.

This year's GRC is EMU's 19th annual celebration and showcase of graduate student scholarly and creative activities. Over 200 students will deliver formal accounts of their work by way of 172 oral presentations, poster presentations, and artistic displays and performances. The activities they describe took significant investments of time and were performed over countless hours outside the traditional classroom. These students and their work are sponsored by over 100 faculty who wisely guided the students' activities and, in many cases, gave students access to their laboratories, studios, and specialized equipment.

This year Kurt Kowalski will be our luncheon keynote speaker. Dr. Kowalski participated in the 1999 Graduate Research Conference, and earned a Master of Science degree in Geography with a concentration in Geographic Information Systems and Remote Sensing from EMU in 2000. Today, Dr. Kowalski is a wetland ecologist with the United States Geological Survey at the Great Lakes Science Center in Ann Arbor, MI.

I wish to thank the students and faculty mentors for their hard work in carrying out their projects and in preparing the presentations. I thank everyone who had a role in planning, promoting, and facilitating today's activities. We thank Dr. Kowalski for his message. And, of course, we thank those who are attending today's event who wish to support our students and to learn and experience something new.

Wade Tornquist, Ph.D.
Interim Associate Provost, and
Associate VP for Graduate Studies & Research

Schedule of Events

8:00 AM Check In

8:30 - 9:00 AM
Three Minute
Thesis Competition*

Thesis Competition
will take place in
Room 301

9:00 - 10:15 AM
Oral Presentation
Session #1

9:00 - 10:15 AM
Poster Presentation
Session A

10:30 - 11:45 AM
Oral Presentation
Session #2

10:30 - 11:45 AM
Poster Presentation
Set Up/Tear Down

12:00 to 1:00 PM Lunch Reception & Keynote Speaker

1:15 - 2:30 PM
Oral Presentation
Session #3

1:15 - 2:30 PM
Poster Presentation
Session B

1:15 - 2:50 PM
Arts Front

2:45 - 4:00 PM
Oral Presentation
Session #4

2:45-4:00 PM
Poster Presentation
Tear Down

-Each oral presentation will run approximately 15 minutes
*Students designated with a * will also be participating in the Three Minute Thesis competition

Poster Presentation Schedule

Session A		9:00-10:15AM Room 310 A/B
Clyde	Barnett III	Higher Education Study Tour - Ecuador
Allison	Boone Green	One Step Forward, Two Steps Back: The Senior Woman Administrator Role and Women's Leadership in Collegiate Athletics
Akhil Prasen Reddy	Boya	Impacts of Cycle Time and Conveyor Capacity on Manufacturing Throughput using Simulation and DOE Analysis
Dawson	Bradley	Hematocrit in the American Goldfinch (Spinus tristis) Is Influenced by Body Condition and Seasonality
Kristina Leah Casiana	Brookshire McDiarmid Warfield	Measuring the caregiver experience in Hematopoietic Cell Transplantation (HCT): How does the CQOLC perform?
Lindsey	Bunio	The Mediating Role of Impulsivity in Response to Negative Affect Between Mindfulness and Food Addiction
Matthew Brian	Cinader Madden	Identifying Undesirable Experiences in Amputee Golfers and Comparing Similar Issues in other Recreational Sports
Sarah	Dean	Stress, Neuroticism, and Unhealthy Eating
Adesola Andrea	Garrett Goossens	Why So Anxious? An Exploration of Counseling Students, Life Stressors, and Anxiety
Shanay Michael Jenna	Giasson Cusick Levine	Comparing Motor Signatures of Developmental Coordination Disorder / Autism Spectrum Disorder and Cerebellar Lesion Groups
Jennifer	Harper	History in the Herbarium at EMU: Investigating the Provenance of a Rare Algae Collection
Kirstie	Herb	The Core Symptoms of Binge Eating and Other Addictive Behaviors: A Network Analysis
Peter	Horning	A Case Report: Biomechanical and Functional Analysis of AFOFC Componentry in Preventing Excessive Knee Flexion During Gait
Kacie	Kinkade	Perceptions of Others and Personality
Raviteja	Kommineni	Crosslink Density: A Model to Predict Performance of Automotive Clear Coats
Rebecca Sun Hae	Leland Jang	A Case Resport: Biomechanical Analysis of Different Pes Planus Modification Techniques in Fabricating Foot Orthoses
Taylor	Macaulay	Food Allergy Attitudes and Stigma in College Students
Ryan	Mamut	Determining Plasma Pause Location
Leah	McDiarmid	Miscarried Helping Among Parents of Children with Cancer

Kristen Sun Hae	McDonald Jang	A Case Report: Functional Outcome Measures of Lower Limb Orthoses for the Pediatric Population
Emily	Micik	Development and Use of Augmented Reality in Orthotic Education
Anna	Miele	A Case Study: Biomechanical and Functional Analysis of Three LSOs for Low Back Pain
Kelsey	Mitchell	Comparison of Skin Glands of Sexual and Unisexual Ambystoma Salamanders Using Scanning Electron Microscopy
Kelsey	Mozdzierz	Understanding Help-Seeking Behavior in Higher Education Athletics
Emily	Nelson	Characteristics of the amputee golfer
Nihal	Pandrapragada	Water-borne Alkyd Resins: An approach for addressing a chronic technical challenge
Alexandra Judith	Patty Hoffman	Effective Use of Multicultural Literature in Teaching Reading to ELLs
Douglas	Peterson	Comparison of amputee golfers adopting either conventional or modified golf stances, with or without expert assistance
Sara	Rakes	Accessing New Media across the Life Course: A focus on Tunisia
Hannah	Redigan	Disordered Eating and Negative Body Image among Sorority Women
Sarah Jovan	Riehl Gonczar	The Use of Biomemetric Trainers to Aid in Teaching Upper Extremity Palpation

Session B 1:15 – 2:30PM Room 310 A/B

Jamie	Allen	How do Soil Bacteria Affect the Biomass of Legumes During Prairie Restorations?
Kathryn Andrew	Anderson Magniapane	3D Printed, Lifecasted Anatomical Models of Plantar Calcaneonavicular Ligament Damage
Carlton	Bell	Access Granted: A Study of the Factors Affecting Development of Technology Literacy in Black Males
Thomas	Brewer*	Clostridium difficile and the Gut Microbiome: Cell-Cell Interaction via Coaggregation
Lilah	Clevey	A Meta-Analysis of the Impact of Mentors Across Domains
Jessie	Coburn	Characteristics of Food Blogs and Food Bloggers That May Influence Dietary Habits
Nicole	Green	Nonverbal Education in the Elementary School Setting
Harshit	Gupta	Self-Dispersing and Stimuli-Responsive Polyurethane Dispersions
Hadeel Mohammed	Jawad*	Introducing a New Programming Tool for High School Students

Poster Presentation Schedule Cont'd

Amanda	Kandies	A Tradeoff Between Floristic Quality and Nutrient Uptake After Phragmites Australis Removal in Great Lakes Coastal Wetlands
Dave	Lall	Impact of the SpaCBA Encoding Pilin of Lactobacillus Rhamnosus GG (LGG) on Coaggregation with Various Gut Microbes
Shuxiao	Li	Liquid Polymerized Ionic Liquids - New Additives for Plasticization
Himanshu	Manchanda	Super Photo-base Initiated Organic-Inorganic Hybrid Coatings by Dual-Cure Mechanism
Rahn Mackenzie	Mathison Gilmore	Applications for Augmented Reality in Orthotics and Prosthetics
Jodi Luke	Meeker Gray	Measurement of Shank to Vertical Angle and Thigh to Vertical Angle in Healthy Adults
Martin Caitlin	Raymond Baumer	Optogenetic Activation of Type-1 cells in Fungiform Papillae Preferentially Activates NaCl-best Neurons and Drives Consumption of "Blue" Water in Na+-Deprived Mice
Andrew	Rinke	Histological Changes During Temporary Anosmia
Sam	Rutledge	Mock Shop Store Layout
Vidhi	Shah	Investigation of Polyurethane Coating Systems Cured using Photo-Base Generators
Swapnil	Shukla	Novel Organic-Inorganic Sol-gel Coatings: Green alternative to Chromate Pretreatment
Andrea	Tanner	Morgan State University Account Management and Password Policy
Casandra	Thayer	Indentured Servitude in Colonial America
Caitlyn	Thelen	Relationship Between Interpersonal Coping Styles and Depressive Symptoms in Young Adults
Margita	Vojtkuľáková	Impact of an After-school program on English Language Learners' Writing Performance and Attitudes to Writing
Autumn	Wright	Utilizing 3D Printing and Life Casting to Develop Anatomically Correct Models for Health Care Classes
Morgan	Wright	The Effects of a Yoga Intervention on Motor Skills in Children with Autism Spectrum Disorder
Loris	Yoon	Catching up to Multiculturalism: An In-Depth Analysis of Bilingual Practices in Speech-Language Pathology
Forough Vijay	Zareanshahraki Mannari	Sustainable UV/LED Curable Nail Gel Polishes based on Renewable Materials

Oral Presentation Schedule

Session #1 9:00 – 10:15 AM

Room 300 Animals

Aaron	Bolton	Machine Learning and Mosquito Acoustics
Sarah J. S.	Glick	Emotional Service Animals in Society
Praveen T W	Hettige	Classifying Mosquito Sounds Using Machine Learning Techniques

Room 301 The Role of Language

Daniele	Benson	The Alternative Double Object Construction in British English
Yaroslav	Hnezdilov	Correction of Fossilized English Pronunciation
Stephen	Lank	Flotsam, Eddies and 'Providence': Actants & Assemblage in Defoe's Robinson Crusoe
Sarah	Pauling	The Development of Language and Area Studies Instruction as American National Security Strategy, 1940-1975

Room 302 Today's Teachers

Silvija	Marnikovic	NNEST/NEST dichotomy: In search of ways of bridging the gap
Adrienne	Seo	Teaching English in South Korea: From "Authentic" Input Providers to Effective Teachers
Shannon	Smith	Online Teacher Perceptions of Self-Efficacy Following a Professional Development Experience
Kimberly	Tsukiyama	An Investigation of Teachers' Professional Learning and Development in Meeting the Needs of Language Learners

Room 320 Children & Adolescents

Teresa	Andersen	The Relationship Between Sleep and Chronic Pain among Children and Adolescents
Hannah	Burton-Parrish	Perspectives of Speech-Language Pathologists on Family-Centered Care and Pediatric Dysphagia
Micala D.	Evans Cochran*	Community Organizing as Community Education: An Ethnographic Study of the Detroit Independent Freedom School Movement
Jerrica Shannon Jessica Alissa	Pitzen, M.S. Franz M.S. Riggs M.S. Huth-Bocks Ph.D.	Stability of Parental Reflective Functioning and Associations with Parenting and Toddler Attachment Security at 2-Years Postpartum

Oral Presentation Schedule Cont'd

Room 330	International Comparisons & Ambassadors	
Linda M.	Harrison, RD	American Cuisine: Ethnic Foods as Cultural Ambassadors
Jinbo	Li	Comparisons of How Tourism Can Shape the Economy Structure Differently
Irene	Mora	Mujeres Forging a New Identity in Michigan
YunTing	Yeh	The Rise of Big Data Policing Application: A Case Study of Taiwan

Room 350	Historical Impacts	
Jenn	Campos-Ayala	Purple Dyes from the Carlos Museum Pre-Columbian Textiles Collection: Direct Mass Spectrometry and HPLC Analyses
Salaheddin	Ebrahim	Studying the Factors Influencing the Willingness and Acceptance to Inhabit Modernized Cave Dwellings in Libya
Justin F.	Krasnoff	King James VI and the North Berweck Witch-Hunt: Denmark Mattered
Joshua	Ringuette	Jean Bodin and his Demon-Mania: Witchcraft in Early Modern French Academic Thought

Room 352	Chemical Collaborations	
Hayley	Cawthon	Effect of Atg7 Under Different Promoters on Autophagic Flux
Margaret	Champion	Targeting the Binding Site of the D1-D2 Heterooligomer
Jeremy	Ritchey	Selection of an Aptamer Against Quantum Dot-Labeled Glyphosate using CE-SELEX
Diana	Rodriguez	Development of Acrylic-Grafted Hybrid Polyurethane Dispersions

Session #2 10:30 to 11:45AM

Room 300	Understanding Cancer	
Mary	Hobson	Pediatric Cancer Standards of Care: The Relationship Between Parent Concerns and Psychosocial Standards of Care
Robert	Muterspaugh	Regulation of Extracellular IGFBP-3 by Humanin in A549 Cells
Jasmine	Winzeler	The Binding Interactions of Atg11 and its Partners During Selective Autophagy
Brandon	Iwaniec	Alzheimer's Love Triangle: Investigating the Binding Interactions of Amyloid Beta, Acetylcholinesterase, and Humanin.

Oral Presentation Schedule Cont'd

Room 301	Race & Social Justice	
Goral	Bhatt	White Power: Parallel Institutions in the United States and South Africa
Akelah Jaborius Naelah	Burks Ball Burks	Roommate Search: People of Color ONLY
Sharon R.	Burrell	Diane Nash- No Retreat, No Surrender
Dar	Mayweather	It's Not A Call Out, It's A Call In: How White Male Leaders in Higher Education Show Support for Social Justice Efforts

Room 302	Experiences & Expectations in Education	
Helen Mae	Cothrel	Expectations and Experiences in a Modern Physics Laboratory Course
Angela	Frank	A Reflection on Programming and Interventions Offered to Students in a Local Day Treatment Program
Charlotte Sarah Celeste	Spencer Van Zoeren Hawkins	A Graduate Student Reflects on a Local University-School-Internship Partnership: The Making Youth Matter Program
Elizabeth	Wolkowicz	Research Plan on the Cultural Impact on Schools Receiving Students from Closed Charter Schools

Room 320	Computers & Technology in Society	
Andrew	Bradley	Navigation Using a Computer Vision System
Rodney	Harper	The Engineer Versus the Designer
Negar Heidari	Matin*	Impact of Facade Configurations on Visual Comfort Metrics of Responsive Systems
Jis	Thomas	A Comparative Study of Big Data Practices in the IT Industry

Room 330	Disability Impacts & Accomodations	
Mariam	Alkhalidi	Interior Design in Relation to Autistic Children Learning Environment
Tori	Humiston	Dietary Intervention in ADHD: Systematic Review of the Literature and Pilot Exploratory Study
Yasmin	Snounu	Disability in the Light Critical Disability Theory, Critical Discourse Analysis and Teacher Development Frameworks: Palestine and the United States of America
Jake	Steiner	Let's Bring Better Supports to Students with ADHD and Emotional Impairments to Michigan Public Schools

Oral Presentation Schedule Cont'd

Room 350	Communication & Its Role	
Ambar	Jiwatode	English for International Business
Paul	Nucci	Step Family Communication: What We Know and What We Don't.
Hannah	Senda	Cultivation Theory: An Analysis and Redefining
Elizabeth	Stoelt	Social Emotional Learning Collaboratory: The Process Learning of Creating a Safe Space for Collaboration, Communication, the Development of Self through the use of Social Emotional Learning Skills

Room 352	Women & Their Many Roles	
Daniel	Bowlin	Heresy, Housewives, and Martin Luther
Isaac Lee	Klooster	Russian Witchcraft and Medicine
Daniel Mathis	Spadafore	Negotiating Philanthropy, Power, and Privilege: An Exploration of the Experiences of Women in Higher Education Fundraising

Lunch: 12:00-1:00 p.m. Student Center Ballroom

Michelle	Good	The Genius of Rhythmic Momentum in Chopin's Ballade No. 3 in A-Flat Major
Keynote Speaker: Dr. Kurt Kowalski		Wetland Ecologist, U.S. Geological Survey - Great Lakes Science Center

Session #3 1:15 to 2:30 PM

Room 300	Law & Policy	
John Isaac	Harris	A Legal Memorandum To Our United States Congress For American-African People Reparations
James	Pellerin	A Review of Early Intervention Systems
Majed	Rajab	Compliance with Information Security Policies in Higher Education
Jaclyn	Shetterly	Resident Advisers' Perceptions of Their Reporting Status Under Title IX: How They can Help Survivors

Room 301	Arts & Entertainment	
Ann M.	Esshaki	Kaldani
Shantong	Li	Evaluating Users and Media Movie Ratings: Applications of Parametric and Nonparametric Tests
Jacquelyn	Odum	"Double, Double Toil and Trouble": James I and the Jacobean Witch Plays
Jenny	Rogers	Dexter Winter Camp: 'Make It, Be It, Say It' Integrated Arts Project

Oral Presentation Schedule Cont'd

Room 302 Transportation		
Swatee B Hamza Yang Roopkatha	Kulkarni Al-Jundi Ge Pallye	Factors Affecting Acceptance of Autonomous Vehicles (AV) in Daily Life
I Yu	Liu	Using Business Analytics Framework for Integrating The Important Data of Autonomous Vehicle
Valentin	Pulido	Railroad Lines and Historic Clusters
Qadri	Shaheen	A Review of Highway Work Zone Crashes in Michigan

Room 320 Psychological & Sociological Impacts		
Georgina	Drury	Cross-Cultural Adaption of Psychological Assessment Tools: A Literature Review and Application
Taylor	Styes	Charles Horton Cooley and the Patterns of the Social Gospel
Anastasia	Wisneski	Creating a Culture of Ethical Behavior in Accounting Using a Commitment to Ethics and Integrity
Xinyuan	Zhang	Select and Analyze Top Features Associated with Heavy Drinking

Room 330 Crime		
Morgen Leigh	Barroso	Transnational and Organized Aspects of the Illicit Antiquities Market: Implications for Regulatory Reform
Yassir E.	Elrayah	Crime Analysis near Colleges and Universities Using Spatio-temporal GIS – City of Detroit Case Study
Nathaniel	Graulich	Criminalizing Debt: Routinizing Excessive Fines and Fees
Daniel J.	Wood	Sex Offender Registries: From Weak Beginnings to a Moral Panic with Harsh Consequences

350 LGBT+ & Gender Expression		
Rachael	Crain	Gender Expression and the Styling of Queer Women's Speech
Suzie	Staley	LGBT+ Equity, Inclusion, and Safety in K-12 Schools
Megan	Stockton	"Whores in Whores' Clothing": Queering the Domestic in Toni Morrison's *The Bluest Eye*
Lisa	Travis	The Relationship Between Autism and Gender Dysphoria

Oral Presentation Schedule Cont'd

Room 352 Eco-Friendly Impacts		
Preeti	Arya*	Wrinkle Resistant Finishes for Cotton and Linen
Hamidreza Vijay	Asemani Mannari	Innovative and Environmentally Friendly Approach towards Isocyanate-Free Thermoset Polyurethane Coatings
Na	Han	A Study on the Impacts of Indoor Environmental Quality on Student Academic Performance

Auditorium Arts Front (1:15-2:50PM)		
Raechael	Bucher	Verdigris Vogue: Modern Manufacturing of Historical Style
Alison	Denomme	Please Be Careful, That's My Heart You're Holding
Charlotte	Oehler	Fall Risk - An Interactive Nonfiction

Session #4 2:45 to 4:00 PM

Room 300 Pertaining to Higher Education		
Emily J.	Boerman	Multi-Case Study of the Impact of Organizational Structure on the Relationships of International Education Offices
Julia	Heck	Exploring Effects of Organizational Structure in Higher Education when Academic and Student Affairs Divisions Merge
LaMarcus D.	Howard	The What & Where: Factors of Persistence Among African American Males in Higher Education
Hoi Yee (Cally) Mahammed	Ng Alqahtani	The Importance of International Peer Advisor to Assist F-1 Students in the United States

Room 301 Data & Approach		
Renxiang	Huang	What Are the Effects of the Development and Application of Big Data in GIS in Recent Years?
Qingchen	Liang	On Estimating Prevalence or Proportion Using a Randomized Response Model: Comparing Power by an Empirical Approach
Eric	Reed	First-Year Academic Performance: A Study of Students from Urban School Districts at One Midwestern University
Megan	Gore	The Digital Self: A Qualitative Approach to Studying Female College Students' Use of Social Networking Platforms

Room 302	Plant Biology	
Irfanul	Alam	Plant Blindness - An Intriguing Metaphor or a Dreadful Manifestation?
Louis	Jochems	Seed Source and Increased Temperature Influenced Growth of 10 Prairie Plant Species
Errile Joy M.	Pusod	Biochemical Characterization of GDP-mannose Pyrophosphorylase and its role in GDP-glucose Biosynthesis in Plants

Room 320	Teaching Today's Youth	
Lawrence	Dunlap	Statistical Literacy in High Schools: A Case Study
Beth	Grzelak	Informing a Definition of 'Voice'
Elisabeth	Johnson	Restorative Justice in Education
Vikki	Wandmacher	Developing the Concept of Adolescence: Factors Converge

Room 330	The Fabric of Our Lives	
Natalie	Chipot	Development of Useful and Reliable Dyeing Methods with Natural Dyes Using Hemp Textile
Sudipta	Dasgupta	Development of Screen Printed Fabric Using Natural Dye
Roopkatha	Pallye*	Super-Hydrophobic and Stain Repellent Pet Fabric
Gelareh	Raoufi*	A Review of Invisible Fabric Technology Status

Room 350	Health Support & Deliverables	
Luke D.	McCormick	Predictability of VO2max from Three Commercially Available Devices
Marnie	Michel	Modeling the Wave of Future Healthcare Delivery: Direct Primary Care
Lauren	Mitchell	Exploring the Intersections of Family and Health Communication: An Investigation of Current and Future Trends
Tina	Thornton	Perceived Sources and Types of Social Support and Academic Success among Male Healthcare Students

Room 352	Mental Health & Disease	
Khadijah	Griffis	Communication Privacy Management of Mental Illness in Families
Sarah Kyle	Kurz Martin	Graduate Student Mental Health: Turning Research into Practice

Abstracts: Arranged alphabetically by presenter last name

Alam, Irfanul
MS, Biology - General (BIOG)
Biology
Dr. Chiron Graves & Dr. Margaret Hanes

Plant Blindness: An Intriguing Metaphor or a Dreadful Manifestation?

Plants perform a multitude of functions besides photosynthesis. In addition to being used as living ornaments for display, we use plants for food, clothing, construction materials, fuel and medicine. Whether to fight climate change, ensure better food security, prevent erosion or to discover a new plant-based medicine, the 21st century faces several botanical challenges. However, even as plants feed the ever-growing population, people of all ages tend to disregard them and take their existence for granted. Introductory biology students are no exception and may have a one-dimensional appreciation for plants. The documented decreased accumulation of botanical knowledge is slowing down efforts to foresee, forestall and mitigate future detrimental effects of climate change on plants, humans and other living beings. One phenomenon that explains a general lack of interest in plants is known as plant blindness. To explore the prevalence of plant blindness, I asked students in an introductory biology (BIO 121: 44 students) and a general education botany course (BIO 215: 40 students) to complete an observational questionnaire. I will explain the results of my thematic analysis and propose new strategies to create a more engaging botanical curriculum at Eastern Michigan.

Oral Presentation Session #4: 2:45-4:00PM Room 302

Alkhalidi, Mariam
MS, Interior Design (IDE)
Visual & Built Environments
Dr. Shinming Shyu

Interior Design in Relation to Autistic Children Learning Environment

Autism is a form of neurobiological disorder that individuals will live with throughout their lifetime. Due to the fact that the symptoms of each individual may vary, autism spectrum disorder (ASD) has been used to address the phenomena. Autism cases have increased dramatically since the term was first coined in the 1940s (Project autism, 2017). This increasing number of cases has been challenged by the lack of effective treatments and proper educational opportunities in some parts of the world. The right education and training are the keys to improving the quality of life for individuals with ASD. Proper interior design has been able to provide inclusive and successful learning environments for children with ASD in classrooms in the U.S. Design elements such as acoustics, lighting, colors, and texture have been utilized to improve the learning outcomes of children with ASD. This research suggests that successful design strategies should be provided to more autistic children around the world and plans to compare conditions of two schools that cater to autistic children, to examine the effects of interior design on the learning and behavior of children with ASD. The comparison will help determine ways to apply the successful design principles used in classrooms in the U.S to that in Saudi Arabia.

Oral Presentation Session #2: 10:30-11:45AM Room 330

Allen, Jamie
MS, Biology - General (BIOG)
Biology
Dr. Emily Grman

How Do Soil Bacteria Affect the Biomass of Legumes During Prairie Restorations?

The vast majority of prairies have been converted into agricultural fields, endangering many species. To help reverse this trend former fields are turned back into prairies by sowing seed for many native prairie plant species. Many of these species fail to thrive in these prairie restorations for unknown reasons. A possible explanation is that agricultural practices have changed soil microbial communities, and these changes limit some plant species' ability to establish in these soils. Specifically, we investigated rhizobia, soil bacteria that form mutualisms with plants in the legume family, to determine if these bacteria are affecting the growth and survival of different legume plant species in restored versus untilled remnant prairies. We grew three species of legumes in soils from remnant (six sites) and restored prairies (10 sites). We saw that the legumes in remnant prairie soils grew more than legumes in restored prairie soils. This suggests that some feature of the remnant prairie soil, perhaps the microbial mutualists, is lacking from restored prairie soil and may explain why legumes establish poorly in restorations. In our future experiment we will isolate rhizobia from remnant and restored prairie soils and test whether these rhizobia differ in their effects on legume growth.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Andersen, Teresa
MS, Psychology (General Clinical) (PSYC)
Psychology
Dr. Catherine Peterson

The Relationship Between Sleep and Chronic Pain Among Children and Adolescents

Chronic and recurrent pain affects approximately 40% of children and adolescents worldwide and represents a significant health concern in the United States (Pavalo, et. al., 2017). In the past, sleep disturbance has only been viewed as a secondary problem associated with pain; however, recent research has pointed to the important role of sleep in relation to chronic pain within the pediatric population. Sleep disturbances are common among children suffering from chronic pain and have been associated with related mood disturbances, difficulties in daily functioning, and lower quality of life (Allen, et. al., 2016). This presentation will review the literature examining the relationship between sleep and chronic pain among children and adolescents, in order to address the question of causality and directionality of these two variables. Impacts on mood disturbance, functional outcomes and quality of life will also be examined.

Oral Presentation Session #1: 9:00-10:15AM Room 320

Abstracts Cont'd

Anderson, Kathryn; Mangiapane, Andrew
MS, Orthotics and Prosthetics (ORPR)
Health Sciences
Assoc. Prof. Frank Fedel
3D Printed, Lifecasted Anatomical Models of Plantar Calcaneonavicular Ligament Damage
Anatomy is an essential component of medical education as it is critical for the accurate diagnosis in organs and human systems (Pujol, 2016). Olson et al. (2002) found that students in the medical field learn best when material is presented in multiple ways. They also found that one of the top three preferred ways of learning is hands-on, contrary to traditional methods of learning, which are primarily by lecture and memorization. Students entering allied health fields frequently use cadavers to learn anatomy. However, cadavers do not typically exhibit specific pathologies and they are not always accessible (Wilhelmsson, 2010). The goal of this project was to create a process for efficiently producing anatomically-correct models that allow students to palpate important landmarks. The condition selected for this project was a damaged plantar calcaneonavicular ligament [spring ligament] due to its high prevalence and unique physical presentation (Bubra, 2015). Based on the fabrication methods used, creating these models would provide accessible, inexpensive learning aids to students.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Arya, Preeti
PhD, Technology (PHD-TC)
Visual & Built Environments
Dr. Subhas Ghosh
Wrinkle Resistant Finishes for Cotton and Linen
Cotton and linen are popular natural fibres that have a tendency to wrinkle. The purpose of this study was to investigate a wrinkle-free cotton and linen fabric using eco-friendly finishes which will help reduce the use of soap, water, and ironing. These durable wrinkle-free fabrics would thus perform for a larger number of laundry cycles. This phenomenon is achieved by masking the free hydroxyl groups present in the cellulose chains of these fabrics, by chemically reacting with carboxyl groups of certain polymeric acids. Different recipes were experimented using concentration of the chemicals, different combination of acids, pH of the recipe solution, and also the temperature of the finish solution as some of the variables. Cotton and linen are cellulosic fibres with hydroxyl groups in its polymeric structure, which when treated with polycarboxylic acids in the presence of an initiator and a catalyst, leads to an esterification reaction between the carboxyl groups in the acid and the hydroxyl groups in the cellulose polymer. The chemical reaction thus blocks free hydroxyl group on the cellulose chains by converting them to esters. Further grafting and crosslinking occurs during the drying and curing process. The treated samples were analyzed using FTIR analysis and the carboxyl group content by titration method, which detected the increase in carboxyl and carbonyl groups on the fabric surfaces. Results from the standard wrinkle recovery angle test and the standard wrinkle recovery appearance test further supported the wrinkle-free nature of the treated samples. The tests conducted on the treated fabrics showed very high wrinkle resistance properties as mentioned above.
Oral Presentation Session #3: 1:15-2:30PM Room 352

Asemani, Hamidreza
PhD, Technology (PHD-TC)
Engineering Technology
Dr. Vijay Mannari
Innovative and Environmentally Friendly Approach Towards Isocyanate-Free Thermoset Polyurethane Coatings
High-solid thermoset coatings are widely used in various applications such as automotive and household industries in order to provide desired mechanical properties and protect the substrate from degradation by aggressive chemicals. Among various options, coatings consisting of polyols and melamine curing agents are highly favorable from the cost efficiency standpoint. However, challenges rising from chemical sensitivity of melamine-based coatings has provided the incentive for many studies to develop functional polyols with different structures to improve the performance. In this study, novel polyols with urethane functionalities (polyurethane-polyols) were successfully synthesized and characterized by reaction of cyclic carbonates and amines as an emerging green chemistry route. The coatings with various polyol structures and dosage of curing agent were subjected to comprehensive performance evaluation, and the results indicated that by increasing urethane functionalities and backbone flexibility and optimization of polyol/melamine ratio, exceptional resistance to chemicals as well as high-impact resistance and adhesion to substrate could be achieved. What makes this new chemistry unique is that not only the coatings exhibit superior performance compared to currently used systems but also it brings a huge environmental advantage by elimination of extremely hazardous compounds such as isocyanate and phosgene from the polyurethane production process.
Oral Presentation Session #3: 1:15-2:30PM Room 352

Barnett III, Clyde
PhD, Educational Leadership
Leadership & Counseling
Dr. Raul Leon
Higher Education Study Tour - Ecuador
The 11-day Higher Education Study Tour - Ecuador examined major elements of the educational system in the 21st Century. Through visits to universities, lectures from local experts, and cultural visits, participants had the opportunity to meet with faculty, researchers, and students to compare/contrast higher education in Ecuador and the United States. The goal was to understand the opportunity structures for all groups in the country and reflect on what it means to be a global citizen in this context.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Barroso, Morgen Leigh
MA, Philosophy
History & Philosophy
Dr. Gregg Barak
Transnational and Organized Aspects of the Illicit Antiquities Market: Implications for Regulatory Reform
It has been argued that "as many as 90 percent of classical artifacts in collections may be stolen antiquities" (Hill 2016). These artifacts and antiquities include sculptures from ancient temples, pottery from archaeological sites in Turkey, coins from Native American tribes, Viking jewelry found at sea, spearheads unearthed in China, and many more.

Stealing of these items is carried out through "the 'taking of material objects of aesthetic, archaeological, or spiritual importance from their original contexts and owners and passing them into the possession of private and public collections'" (Hill 2016). As one of the most intricate and complex markets in the world, the trade proceeds through the stages of theft, transit, facilitation and sale/purchase. This paper will discuss the nature of the antiquities market as organized, transnational crime. Containing both legal and illicit sectors, the antiquities trade is often misclassified and misunderstood. Because of this misunderstanding, the current regulations in place – 1906 Antiquities Act, 1956 National Stolen Property Act, 1970 UNESCO Convention, 1976 Archaeological Resources Protection Act, etc. – are ineffective in regulating the illicit activity involved in the antiquities trade. Suggested modifications for current regulations will be proposed after the thorough examination of the players and locations of the trade market.
Oral Presentation Session #3: 1:15-2:30PM Room 330

Bell, Carlton
PhD, Educational Leadership
Leadership & Counseling
Dr. David Anderson
Access Granted: A Study of the Factors Affecting Development of Technology Literacy in Black Males
One of the most urgent challenges facing the United States is addressing the digital divide that exists and increasing the technology literacy amongst underrepresented populations. Access to technology was believed to be one of the causes for the discrepancy that exists, but there is a deeper divide: the divide that exists between technology literacy and career readiness. Although access to technology has improved over time, the educational outcomes for Black males in technology-related fields have not. This lack of technological diversity has serious implications for the future of our society. Some of these implications include a less diverse workforce and a negative impact on Black males' sense of identity. This study will examine the factors that may impact the ability of Black males to acquire high levels of technological literacy. A model that is composed of environmental factors and individual influences is proposed and tested. Black male undergraduate students who have senior- or junior-level class standing and are enrolled in computer science-related degree programs will be surveyed. The implications of the research will be used to develop interventions aimed at increasing technology literacy and ultimately leading to a larger presence of Black males in computer science and IT-related fields.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Benson, Daniele
MA, English Linguistics (LING)
English Language & Literature
Dr. Daniel Seely
The Alternative Double Object Construction in British English
In some dialects of British English, a double object construction different than the American English version is permitted. The construction allows the order of arguments theme + recipient with no overt preposition, as in "John gave the book Mary." This is in contrast to American English, where the preposition must be present ("John gave the book to Mary") except when the recipient precedes the theme ("John gave Mary the book"). In this presentation, I will present evidence for the deep structure of the alternative double object construction. Examining the acceptable constructions, both in American and British English, provides background for my analysis. A review of syntactic theory reveals the deep structure of the two more common ditransitive constructions and the motivation for the movements that yield their surface structures. This provides a basis for the conclusion that the alternative double object construction is derived from the prepositional construction.
Oral Presentation Session #1: 9:00-10:15AM Room 301

Bhatt, Goral
MA, History (HST)
History & Philosophy
Mr. Joseph Engwenyu
White Power: Parallel Institutions in the United States and South Africa
In South Africa and the American South, the white populations were permitted to exert dominance over the non-white citizens through legalized segregationist policies. The systems of racial segregation in both regions were sparked by appeasements between the United States government with Southern whites (The Compromise of 1877) and the British Parliament with Afrikaners (The Act of Union of 1909). After the formation of these appeasements, legal segregation sustained great longevity. In response to intense oppression, the non-white populations in both South Africa and the South formed resistance groups to combat the segregation policies. Though resistance varied based on tactics and ideologies, each group established movements that eventually helped end the racist regimes in South Africa and the South. This presentation examines the many parallels between the institutions of white supremacy that emerged in these two regions.
Oral Presentation Session #2: 10:30-11:45AM Room 301

Boerman, Emily J.
PhD, Educational Leadership
Leadership & Counseling
Dr. Ronald Williamson
Multi-Case Study of the Impact of Organizational Structure on the Relationships of International Education Offices
International education has been a growing in higher education in the United States. More than 300,000 students study abroad, and more than one million students come from overseas to study in the United States. Limited research has been done examining how international education offices (education abroad, international enrollment management, international students and scholar services and English as a second language) are organized at universities. While there are some anecdotal reports of successful organizational practices in higher education, there is not a widely used "best practice" for organizing international departments in colleges and universities. Two staff members from each area of international education offices will be interviewed at five midwestern universities. Each staff member will be interviewed individually through a multi case study approach to learn about the benefits and challenges of the organizational structure at the selected institutions.
Oral Presentation Session #4: 2:45-4:00PM Room 300

Abstracts Cont'd

Bolton, Aaron
MA, Mathematics (MTH)
Mathematics
Dr. Andrew Ross
Machine Learning and Mosquito Acoustics
Some species of mosquito are known to carry disease harmful to humans. Determining a mosquito's species based on sound alone can help in targeting anti-mosquito efforts. This presentation will demonstrate the ability of an artificial neural network (a type of machine learning) to classify the species of mosquito based on previously collected acoustic data. It also highlights how parameter choices such as the number of neural layers or number of nodes in each layer affects the network's accuracy.
Oral Presentation Session #1: 9:00-10:15AM Room 300

Boone Green, Allison
PhD, Educational Leadership
Leadership & Counseling
Dr. Elizabeth Broughton
One Step Forward, Two Steps Back: The Senior Woman Administrator Role and Women's Leadership in Collegiate Athletics
Women's access to and participation in athletics in America has changed dramatically over the past hundred years. No single law created such a transformative change as the passage of Title IX. This law increased opportunities and funding to thousands of women competing in intercollegiate athletics. While the law granted unprecedented support for women athletes, it marked the beginning of the end for meaningful female leadership in collegiate sports. Prior to the passage of Title IX in 1972, over 90% of women's intercollegiate athletics programs were administered by a female. By 1980, less than 6% of NCAA Division I athletic directors were female (Acosta & Carpenter, 2014). Thus, In 1981, nine years after the passage of Title IX, the NCAA created a new role for women, the Senior Women Administrator (SWA), with the stated purpose of helping integrate women into collegiate athletics leadership. To this day, the SWA position exists on many campuses across the country. However, it's history and impact is largely unknown. The purpose of this study is to explore the formation and outcomes of the SWA position, using Easton's (1965) General Systems Theory as a framework for analysis. This study may contribute to understanding the role of the SWA.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Bowlin, Daniel
MA, History (HST)
History & Philosophy
Dr. Ronald Delph
Heresy, Housewives, and Martin Luther
Witch trials were rampant in sixteenth century Germany and the German religious reformer, Martin Luther, had much to say on the issue of witches. Luther not only believed in the commonly held views about witches, he even pushed them further, which effectively increased persecutions of those accused of witchcraft. Why did Luther take such an avid interest in witches, and why did he expand upon the common perceptions of witches? This paper will argue that Luther agreed with most of his contemporaries that women were weak, both physically and mentally, and that they used witchcraft to overcome their inabilities. Luther went beyond this, however, to say that any heresy was a form of witchcraft that originated from the devil. This latter view greatly expanded the scope of witch persecutions in Germany, because Luther argued that all heresy, rather than only particular forms, was diabolical witchcraft and needed to be rooted out.
Oral Presentation Session #2: 10:30-11:45AM Room 352

Boya, Akhil Prasen Reddy
MS, Engineering Management (EGMT)
Engineering Technology
Dr. He (Herman) Tang
Impacts of Cycle Time and Conveyor Capacity on Manufacturing Throughput using Simulation and DOE Analysis
Production throughput is a key for manufacturing systems. This study aims to find the optimal throughput considering different cycle times and conveyor capacities for manufacturing systems. First, actual vehicle general assembly (GA) and paint shops are modeled using Simul8 software. A conveyor system connecting the two shops is built into the model. Then, based on the Design of Experiment (DOE) principle, two main factors of the manufacturing system are considered in the study. One is the cycle time of the paint shop, set at 60, 59, and 58 seconds. The other is the capacity of the conveyor, set at 150, 200 and 250 units, while, the cycle time of the GA shop is fixed at 60 seconds in the study. Based on the computer discrete event simulation and DOE analysis, the influences of the two main factors and their interaction on the system throughput are obtained and discussed. The study results provide a quantitative guideline for the optimal manufacturing system development.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Bradley, Andrew
MS, Computer Science (CSC)
Computer Science
Dr. William Sverdlik
Navigation Using a Computer Vision System
Robotic navigation in an indoor environment presents a number of challenges. Despite being a closed course, location determining equipment such as GPS and other sensor based technology is often limited by walls, ceilings, and other aspects of being enclosed. This experiment attempts to evaluate the feasibility of creating such a system, along with analyzing the accuracy of the system that is created. We have chosen to rely solely on open source software solutions such as Python and OpenCV, along with open source robotics platforms such as those provided by Parallax. This project experiments with a number of edge detection systems. Techniques such as Canny edge detection and Hough transforms are used to find not only edges in images, but also estimate where complete edges should be if gaps are missing from the images. Questions such as corner detection and estimation of the correct path given an intersection are explored. Finally we evaluate the real world applications of these techniques given the current state of consumer grade hardware and limitations imposed upon us due to algorithm design.
Oral Presentation Session #2: 10:30-11:45AM Room 320

Bradley, Dawson
MS, Ecology Evolution and Organismal Biology (EEOB)
Biology
Dr. Jamie Cornelius

Hematocrit in the American Goldfinch (Spinus tristis) Is Influenced by Body Condition and Seasonality

The American goldfinch (Spinus tristis) is a known partial migratory species where only some individuals of the population migrate south prior to winter. Hematocrit, the ratio of red blood cells to plasma, is thought to reflect metabolic demand and overall health. We collected blood samples to get a baseline hematocrit level, and then obtained another sample 30 minutes later to determine the change in hematocrit level. We found that hematocrit was significantly correlated with body condition ($F_{1,130}=9.0$; $P = 0.003$, $R2=0.07$) and season ($F_{3,144}=8.3$; $P < 0.0001$; $R2=0.15$), supporting the hypothesis that hematocrit reflects physiological responses and environmental variation. Understanding this response may give us a better awareness of the plasticity of birds to cope with environmental variation.

Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Brewer, Thomas
MS, Molecular/Cellular Biology (MCBI)
Biology
Dr. Daniel Clemans

Clostridium difficile and the Gut Microbiome: Cell-Cell Interaction via Coaggregation

Clostridium difficile is a nosocomial pathogen that arises in patients post antibiotic treatment. Once its biofilm develops, treatment becomes less effective as damaging colitis incapacitates the host. However, Clostridium difficile can also appear as a non-pathogenic partner in the endogenous gut microbiota. Biofilms within the gut are composed primarily of Firmicute and Bacteroides species. Until now, Clostridium difficile's interaction with these biofilms has been uncharacterized. Assessing coaggregation of Clostridium difficile and members of Firmicute and Bacteroides genera identify the cell-cell interaction of these microbes and provide insight into gut biofilm construction and incorporation of this potential pathogen. Cell-cell interactions of Clostridium difficile with these microbes is established under the influence of growth conditions against a pure, unadulterated culture. A panel of inpatient and outpatient isolates are compared to identify the interactivity of specific strains with endogenous gut bacteria.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Brookshire, Kristina; McDiarmid, Leah; Warfield, Casiana
PhD, Clinical Psychology (PSYD)
Psychology
Dr. Michelle Byrd

Measuring the Caregiver Experience in Hematopoietic Cell Transplantation (HCT): How Does the CQOLC Perform?

Family CGs of patients undergoing HCT are at risk for significant levels of distress (Bevans et al., 2011; Bevans & Sternberg, 2012). The aim of this study was to examine the CG experience in the context of an ongoing clinical trial of an mHealth tool, and investigate psychometric properties of the Caregiver Quality of Life Index-Cancer (CQOLC; Weitzner et al.,1999). CGs were electronically surveyed at admission, discharge, and day 100. Internal reliability of the CQOLC total score was high (alpha = 0. 86-0.96), but was more variable across subscales (alpha = 0.56-0.91 in PCGs and 0.71-0.92 in ACGs). Overall, the CQOLC improved significantly across time for PCGs, $F(2,28) = 3.55$, $p = 0.04$ ($\eta p^2 = 0.20$). Post-hoc analyses showed improvement in CQOLC between admission and discharge.

Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Bucher, Raechael
MS, Apparel Textiles and Merchandising (ATM)
Visual & Built Environments
Dr. Julie Becker

Verdigris Vogue: Modern Manufacturing of Historical Style

Current practices in historical clothing conservation include numerous shortcomings, such as the lack of creating a digital representation of garments and accessories despite the continued deterioration of the textile. This project aimed to extend the conventional boundaries of Gerber's AccuMark 2D pattern design software as well as Gerber's DSC 2500 industrial fabric cutter through their utilization in the reproduction of historical garments from digital sources. This project aimed to simplify historical garment pattern preservation by utilizing modern, innovative, and advanced pattern matching and cutting technology. Historical patterning techniques were learned and update for use with the CAD software. A garment was produced using modern apparel industry and applying advanced pattern cutting technology to maximize the consistency, quality, and value of the finished garment. Future goals include the identification of the desirable factors for digital historical pattern preservation and to investigate possible future development for online exhibitory and educational purposes.

Arts Front Session #3: 1:15-2:30PM Auditorium

Bunio, Lindsey
MS, Psychology (Clinical Behavioral) (PSYB)
Psychology
Dr. Tamara Loverich

The Mediating Role of Impulsivity in Response to Negative Affect Between Mindfulness and Food Addiction

Difficulties in regulating emotion, such as impulsivity in response to negative affect (INA), have been shown to mediate the relationship between a lack of mindfulness and substance use disorders (SUD). The compulsive use of highly palatable foods, known as food addiction (FA), has been shown to be similar to SUD in many ways, however, more research is needed to understand the commonalities and differences between FA and SUD. This study examined the mediating role of INA in the relationship between mindfulness and FA. Data were collected online from 485 undergraduate college students and community members. Participants completed a battery of assessments that included measures of mindfulness, eating behaviors, and emotion regulation. Significance of the indirect effect was examined using bootstrapped 95% confidence intervals (Nbootstraps = 5000) to test the mediating role of INA. Results showed that the effect of mindfulness awareness on FA was mediated by INA, CI95% = 0.04 to 0.06, p 0.05. This study extends previous findings on the similarity between SUD and FA in the context of mindfulness and emotion regulation, while also demonstrating the unique components of mindfulness that predict FA.

Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Abstracts Cont'd

Burks, Akelah; Ball, Jaborius; Burks, Naelah
MA, Educational Leadership- Higher Education/ Student Affairs (HESA)
Leadership & Counseling
Dr. Carmen McCallum
Roommate Search: People of Color ONLY
Since the 1960s, racial and ethnic diversity within higher education institutions has increased, affording students the opportunity to interact with individuals with different backgrounds and experiences. Despite the ability to interact with other cultures, many African American students struggle with becoming acclimated at predominantly white institutions. This has led to higher dropout rates and lower graduation numbers among African American students. This presentation will explore programs and living learning communities that are in place at Eastern Michigan University for students of color. It will also discuss the importance of having more diverse and inclusive programs on campus, including living situations, that can create a better understanding and acceptance for various cultures and backgrounds.
Oral Presentation Session #2: 10:30-11:45AM Room 301

Burrell, Sharon R.
MA, History (HST)
History & Philosophy
Dr. Mary-Elizabeth Murphy
Diane Nash- No Retreat, No Surrender
When discussing the Civil Rights struggles of the 1950-60s, we hear the names Rosa Parks and Dr. Martin Luther King among others but rarely do we hear the name of Diane Nash. Ms. Nash's participation was instrumental and vital in the Freedom Rides, lunch counter sit-ins, and other demonstrations whose aim was to break the back of Jim Crow. Despite her immense contributions, her name is rarely uttered when the roll of civil rights pioneers is called. My project seeks to remedy the glaring omission of this brave woman in the pantheon of civil rights heroes and heroines.
Oral Presentation Session #2: 10:30-11:45AM Room 301

Burton-Parrish, Hannah
MA, Speech-Language Pathology (SPLP)
Special Education
Dr. Sarah Ginsberg
Perspectives of Speech-Language Pathologists on Family-Centered Care and Pediatric Dysphagia
While the family-centered care model has been identified in medicine as the preferred method to manage complex medical issues (Dunst, Trivette, & Hamby, 2008), particularly for children, we do not know what models of care SLPs working with pediatric dysphagia are using, and if those models possess the suggested family-centered approaches. This qualitative thesis study explored perspectives of speech-language pathologists (SLPS) on family-centered care practices within pediatric dysphagia. The research focus included family support and inclusion, roles of the family, and the dynamic between the SLP and the family. Experiential phenomenology was employed to analyze information gleaned from semi-structured participant interviews. Individual interviews were used to examine the participants' experiences and the analysis of themes within the study. Issues of parent education, follow-through in the home environment, communication between the SLP and parents, and family support were raised and discussed as being integral aspects of the involvement of family within pediatric dysphagia. Implications for clinical SLPs who work with pediatric populations, families of children who receive SLP services, organizations, and further research topics were discussed as a result.
Oral Presentation Session #1: 9:00-10:15AM Room 320

Campos-Ayala, Jenn
MS, Chemistry (CHM)
Chemistry
Dr. Ruth Ann Armitage
Purple Dyes from the Carlos Museum Pre-Columbian Textiles Collection: Direct Mass Spectrometry and HPLC Analyses
Purple dyes derived from molluscs are often considered indicative of high status objects or individuals. This elevation of certain dyes or dye sources may be related to rarity of the raw materials, requiring long-distance trade in many cases, or the complexity of preparing the dyes. This work focuses on a collection of red, blue, and purple yarns sampled from the Michael C. Carlos Museum collection of South American pre-Columbian textiles. The purple dyes in particular were expected to be either pure purple from shellfish or red yarns overdyed with indigoid blues. High performance liquid chromatography (HPLC) is considered the standard approach to identifying dyes, yet it requires lengthy sample preparation and analysis times. Using direct analysis in real time (DART) and paper spray (PS) mass spectrometry for analysis of the red, blue and purple dyes offers potentially faster and simpler analysis. Combining these three approaches maximizes what we can learn from these ancient dyes.
Oral Presentation Session #1: 9:00-10:15AM Room 350

Cawthon, Hayley
MS, Chemistry (CHM)
Chemistry
Dr. Steven Backues
Effect of Atg7 Under Different Promoters on Autophagic Flux
Autophagy is a eukaryotic process of subcellular degradation, where material within the cell is wrapped in a double-membraned autophagosome. In yeast, these autophagosomes are trafficked to the vacuole, where the outer membrane merges with the vacuolar membrane, allowing the autophagic body inside to be digested. Many autophagy-related (Atg) proteins are involved in this process, and it has been shown that altering the expression of certain proteins will lead to a change in the size and/or number of these bodies. One way to control the levels of these proteins is by changing the promoter the gene is controlled by. We created yeast strains where the Atg7 protein is under the control of various promoters and verified that this affected the levels of Atg7 by Western blot. We then tested the autophagic activity of these strains using pho8Δ60 assay and imaged these cells using transmission electron microscopy (TEM) to analyze the size and number of autophagic bodies. The pho8Δ60 assay data showed that reduced levels of Atg7 led to decreased autophagic activity, and analysis of the TEM images indicated that Atg7 under the Gal3 promoter led to both smaller and fewer autophagic bodies than the gene under its native promoter.
Oral Presentation Session #1: 9:00-10:15AM Room 352

Champion, Margaret
MS, Chemistry (CHM)
Chemistry
Dr. Hedeel Evans

Targeting the Binding Site of the D1-D2 Heterooligomer

Dopamine receptor subtypes D1 and D2 interact in a manner that modulates a number of signaling pathways. This interaction is thought to involve heterooligomerization via interaction of amino acids in the cytoplasmic regions of each receptor, specifically between two adjacent arginine resides in intracellular loop 3 of the D2 receptor and two adjacent glutamic acid residues in the carboxyl tail of the D1 receptor. To investigate the binding region of the D1-D2 heteromer, we generated four peptides (ARRA, AARRAQ, EERRAQ, EAARRAQE) of varying lengths based on the D2 intracellular loop and tested their ability to block D1-D2 heteromer formation. Only EAARRAQE was able to demonstrably block heteromer formation, yielding valuable insights into the amino acids involved in the binding region. D-isoforms of EAARRAQE were generated, which showed a greater ability to disrupt heteromer formation than the L counterpart. Both L and D isoforms of peptide EEAARRAQE were able to disrupt D1-D2 heterooligomerization in whole tissue lysates derived from frontal and temporal lobes. Binding kinetics of D1-D2 heterooligomerization and the disruption of this heterooligomerization by peptide EEAARAQE are reported.

Oral Presentation Session #1: 9:00-10:15AM Room 352

Chipot, Natalie
PhD, Technology (PHD-TC)
Visual & Built Environments
Dr. Subhas Ghosh

Development of Useful and Reliable Dyeing Methods with Natural Dyes using Hemp Textile

This research aims to more fully understand the effects of natural dyes including tea, pomegranate, and myrobalan on hemp fabric. The basic purpose of this study is to develop a natural dyeing process for natural fibers which will have an improved wash fastness. It will focus on formulation for dyeing with natural colorants, optimization of the dyeing techniques, and development of a useful and reliable the procedure. This research will use a full factorial design of experiments to best optimize the dyeing procedure. CIELAB and K/S values will be measured throughout the process to determine color change and dye depth.

Oral Presentation Session #4: 2:45-4:00PM Room 330

Cinader, Matthew; Madden, Brian
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Dr. Frank Fedel

Identifying Undesirable Experiences in Amputee Golfers and Comparing Similar Issues in Other Recreational Sports

The psychosocial benefits of participation in sports or physical activity in amputees have been documented (Bragaru et al., 2011), and pain has been identified as a barrier to participation (Bragaru et al., 2013), yet no data exist describing the effects of amputation on participation in golf. This study was completed to explore issues relating to pain, fatigue and level of participation in amputee golfers. A survey was completed by eighteen amputee golfers at two amputee golf outings in Michigan. The results identified interesting trends. Individuals who modified their golf stance because of amputation were much less likely to report pain while golfing than those who did not modify their golf stance. Individuals who received instruction from an expert when adopting an alternative golf stance were much more likely to report pain while golfing when compared with all other respondents. This apparent dichotomy could be related to the goals of the expert instruction, as "expert" was not clearly defined in the survey instrument. Since pain during sports participation is often related to biomechanical factors (Pastorelli & Pasquetti, 2013), assessment of suggested alterations in biomechanics during participation in other sports by amputees could inform future instruction by "experts."

Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Clevey, Lilah
PhD, Clinical Psychology (PSYD)
Psychology
Dr. Rusty McIntyre

A Meta-Analysis of the Impact of Mentors Across Domains

This meta-analysis examined the influence of mentors on behavioral as well as cognitive outcomes across laboratory, occupational, educational, and clinical domains. The analysis included 352 coded effects from peer review published sources. The effects that were included were from studies that utilized a control versus mentor condition that reported sufficient statistical data to compute an effect size (d). Three coders (with acceptable reliability, $k > .90$) reviewed the collection of initial sources and coded eligible papers. From those codes, meta-analytic results indicated that the effect of mentors was seen as reliable, and that the overall average weighted effect size that was moderate ($d' = .395$, $p < .001$), and that there was significant moderation across study designs. Moderator analyses indicated that outcome type showed significant methodological differences, however, differences in domain did not show moderation. Exploratory tests of moderation also showed that studies that examined female mentors or female protégés produced more reliable effects than did studies that examined male mentors, or for male protégés. These results are informative for future interventions employing the use of mentors as agents of behavioral change.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Coburn, Jessie
MS, Dietetics
Health Sciences
Dr. Anahita Mistry

Characteristics of Food Blogs and Food Bloggers That May Influence Dietary Habits

Food blogs are a popular source of recipes and influence dietary habits. The goal of this study was to evaluate the characteristics of food blogs and credentials of food bloggers that might potentially affect food choices. Primary aspects evaluated included the purpose of the blog, whether the recipes had nutrition facts and ratings, and whether there was any industry-sponsored content. An evaluation tool was created and used to gather data from a randomized list of food blogs taken from https://americanfoodbloggers.com. The criteria used for the blogs included having published posts before 2014, up to four blogger contributors, recipes featured on the home page, recipes posted at least monthly, and recipes that were appropriate for meals (sides and entrees). Out of 187 blogs analyzed, 100 blogs were eligible for the study. Preliminary results showed that only 5% of the bloggers had a nutrition-related degree; 24% of the

blogs provided nutrition facts; and 94% of the blogs published company-sponsored posts. Continued data analysis results are forthcoming. The analyzed blogs demonstrated characteristics that may negatively influence food choices through food bloggers without nutrition-related credentials and content that lacks nutrition facts or is biased with industry sponsorships.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Cothrel, Helen Mae
MS, Physics Education (PHYE)
Physics & Astronomy
Dr. Jonathan Skuza
Expectations and Experiences in a Modern Physics Laboratory Course
Modern physics is a crucial course due to its context as a bridge between the introductory level and quantum mechanics. Laboratory courses in modern physics are under scrutiny due to a dearth of evidence that their benefits to students—especially regarding content knowledge—outweigh the resources needed to maintain them. As such, it is worth questioning whether it is justifiable to continue to offer labs along with lecture in modern. This study examines students' experiences in a modern physics lab through beginning- and end-of-semester interviews to learn what is meaningful or valuable (or not) to them about the lab. I will present the results of one student's interviews as an example case to show that students' ideas about the modern physics lab extend beyond content knowledge.
Oral Presentation Session #2: 10:30-11:45AM Room 302

Crain, Rachael
MA, English Linguistics (LING)
English Language & Literature
Dr. Eric Acton
Gender Expression and the Styling of Queer Women's Speech
Various linguistic features of one's speech style can contribute to one's gender expression, and, consequently, interact with other facets of identity, such as sexual orientation. This study investigates the relationship between the gender expressions and speech styles of queer women ages 18-30. Ten participants were asked to complete a recorded reading task and short questionnaire about their gender expression. Participants' mean pitch, or f0, and the center of gravity of their word-initial tokens of /s/ were calculated using Praat, and the results were analyzed with respect to their answers to the questions about their gender expression. The results suggest a relationship between pitch and certain measures of gender expression, while showing a very slight relationship with mean /s/ frequency. Specifically, there was a moderate positive correlation between f0 and femininity, and moderate negative correlation between f0 and masculinity, as well as a"butch" identity.
Oral Presentation Session #3: 1:15-2:30PM Room 350

Dasgupta, Sudipta
MS, Apparel Textiles and Merchandising (ATM)
Visual & Built Environments
Dr. Subhash Ghosh
Development of Screen Printed Fabric Using Natural Dye
Natural pigment obtained from plants or animals used for printing or dyeing fabric is preferred sometime over chemical colorant for its environment friendly and nontoxic nature. Cochineal is a natural dye extracted from female Cochineal insect which produces bright red or purple color on fabric. Nearly all-natural dyes require the use of mordant or a thickening polymer agent to fix them on to the textile substrate. In this study, screen printing technique was used to hand print 100% cotton fabric with Cochineal dye in different concentrations mixed with water based thickening agent, with or without mordant. The screen was developed as a stencil in the lab using photosensitive emulsion coating and exposing under UV light. Stannous Chloride mordant was used as the dye fixator. The printed fabrics were cured at two different temperatures and was then tested for color strength, colorfastness and color durability as per ASTM and AATCC standard methods to optimize the natural dye recipe for the best screen print quality and appearance.
Oral Presentation Session #4: 2:45-4:00PM Room 330

Dean, Sarah
MS, Psychology (General Experimental) (PSY)
Psychology
Dr. Chong Man Chow
Stress, Neuroticism, and Unhealthy Eating
Stress has been shown to affect women's eating behaviors (Corsica, Hood, Katterman, Kleinman, & Ivan, 2014) with higher levels of perceived stress contributing to various unhealthy behaviors, including emotional eating (Wilson, Darling, Fahrenkamp, D'Auria, & Sato, 2015). Emotional eating occurs in response to emotional cues such as anger or depression (Van Strien, Frijters, Bergers, & Defares, 1986) and tends to increase over adolescence (Snoek, Van Strien, Janssens, & Engels, 2007). Neuroticism is also associated with eating disorders (Fischer, Schreyer, Coughlin, Redgrave, & Guarda, 2017). However, little is known about whether neuroticism would moderate the association between stress and eating behaviors. The hypotheses that adolescent girls with higher levels of neuroticism and stress would experience more unhealthy eating behaviors and the combination of high neuroticism and stress would increase unhealthy eating behaviors was supported by results that stress was significantly related to emotional eating, and neuroticism and perceived stress had a significant interaction effect on emotional eating. These results suggest that these girls are more vulnerable to the challenges of stressful circumstances and thus, engage in more emotional eating as a coping mechanism, which may be important for clinicians working with adolescent girls who are at risk for unhealthy eating behaviors.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Denomme, Alison
MA, Autism Spectrum Disorders (ASD)
Special Education
Dr. Phil Smith
Please Be Careful, That's My Heart You're Holding
68% of public school students will experience trauma before they graduate high school. Trauma is an emotional and/or physical response to a difficult event or series of events. Trauma takes many forms. Half of all American children live in poverty. Black children see their parents harassed by police three times as often as their white peers. 1 in 4 school aged girls have been victims of sexual abuse. School shootings are becoming shockingly common. Good teachers may recognize the wounds but are not trained to manage the problem. Healthy

Environments and Response to Trauma in School (HEARTS) and Emotional CPR are both exemplary programs that provide comprehensive, school-wide training to triage and manage behaviours arising from traumatic experiences. Open-hearted compassion, deep listening, and focusing on the needs of the students are key to the healing process. For this research, I co-created art, poetry, and prose with a number of people. We met, exchanged stories, asked questions, got angry, got sad then took all that and created art and poetry.
Arts Front Session #3: 1:15-2:30PM Auditorium

Drury, Georgina
MS, Psychology (General Clinical) (PSYC)
Psychology
Dr. Catherine Peterson
Cross-Cultural Adaption of Psychological Assessment Tools: A Literature Review and Application
Researchers and clinicians looking to examine the psychological functioning of a specific population may face the challenge of not having access to standardized measures suitable for the population's primary language and cultural considerations. In this situation, there are three options: create a new measure, use a parallel approach in which a common set of items is generated to be used across multiple cultures, or adapt and validate an existing measure (Guillemin, Bombardier, & Beaton 1993; van Widenfelt & Treffers, 2005). Each option raises different concerns about validity, but the latter option is the most commonly used. While there is not a standardized process for the cross-cultural adaptation of psychological measures, commonly followed guidelines emphasize that the process must control for the largest number of validity concerns. The Psychosocial Assessment Tool (PAT), is a standardized, English-language measure designed to assess psychosocial risk in families of children recently diagnosed with cancer (Kazak, Prusak, & Simms, 2001). Through examination of the process necessary to modify the PAT for utilization in Indonesia, this presentation will serve to highlight the strengths and weaknesses of those guidelines and suggest possible areas of improvement for the standardization of measures for cross-cultural data collection and comparison.
Oral Presentation Session #3: 1:15-2:30PM Room 320

Dunlap, Lawrence
MA, Mathematics (MTH)
Mathematics
Dr. Khairul Islam
Statistical Literacy in High Schools: A Case Study
This study examines statistical literacy among students and staff at a single suburban high school. Groups of students and staff were given a brief statistical literacy quiz of questions testing basic understanding of common topics and misconceptions in statistics and probability, including graphical analysis, mean and median, probability and independence, and bivariate data analysis. Results were compared across groups based on highest mathematics course taken, statistics experience, and mathematics grade. Students with As outperformed students with Cs and Ds, when all course levels were combined, but grades did not show any other major impact on performance. A students did not statistically outperform B students. Overall, the students who completed AP Statistics in the past year outperformed all other students as well as the teachers. Among the teachers, however, the statistical significance of taking a statistics course did not hold. While the mean literacy score was greater for teachers with a statistics background, it was not statistically significantly larger than the mean literacy score for teachers without a statistics course in their history. There are many possible explanations for these two competing results, and further analysis of this phenomenon and possible educational interventions is crucial if we are to educate all students and teachers to be data literate in today's world.
Oral Presentation Session #4: 2:45-4:00PM Room 320

Ebrahim, Salaheddin
PhD, Technology (PHD-TC)
Visual & Built Environments
Dr. Shinming Shyu
Studying the Factors Influencing the Willingness and Acceptance to Inhabit Modernized Cave Dwellings in Libya
Cave dwellings have served as the usual or vacation residence for millions of people throughout history. In Libya, cave dwellings have been abandoned due to rising levels of urbanization, industrialization, and modernization. Libyans no longer view cave dwellings as viable homes. Nevertheless, modernized cave dwellings, homes equipped with up-to-date technology and stylistic designs, have surfaced in many places around the world such as China, Turkey, and Spain. This research tests whether Libyan's perceptions of ease of use and acceptance of modernized cave dwellings increase their intentions of living in them. Additionally, this study examines the proposed link between modernization theory and residing in cave dwellings, the more educated, and gender egalitarianism advocate Libyans are, the higher their likelihood of living in cave dwellings. Using a sample of 450 Libyans, the study tests a theoretically developed model based on modernization and technology acceptance models, independent variables, and the intention of Libyans to live in modernized cave dwellings, the dependent variable. Findings of this study contribute to our knowledge on how we can improve the structure, design, and sustainability of cave dwellings to be more attractive and appealing to Libyans. Results also assist in the historic preservation efforts of cave dwellings as treasures inherited from former civilizations.
Oral Presentation Session #1: 9:00-10:15AM Room 350

Elrayah, Yassir E.
PhD, Technology (PHD-TC)
Technology & Professional Services Management
Dr. Yichun Xie
Crime Analysis near Colleges and Universities Using Spatio-temporal GIS – City of Detroit Case study
The city of Detroit at one point was ranked among the cities with the most severe crimes. Recently, city and criminal justice's officials recognized this problem and started revitalization efforts to improve the public safety. However, there is always a need to understand the effect of these efforts such as the change of crime pattern overtime especially around densily populated areas such as colleges and universities.This study explored the spatio-temporal patterns within the city neighborhood and near colleges and universities using GIS techniques such as spatiotemporal analysis. The results of this study showed that except for universities that are close to the city center, more cold spots

had emerged near other academic institutions with different emergying types. Also, the result showed that more diminishing hotspots near Central Business District (CBD) were present, which could be due to the steps followed by the city officials to reduce crimes.
Oral Presentation Session #3: 1:15-2:30PM Room 330

Esshaki, Ann M.
MA, Creative Writing (CW)
English Language & Literature
Dr. Christine Hume
Kaldani
The presentation will feature the process of creating a poetry book written on Kaldani's, aka Chaldeans, a group of Christians from multiple villages and towns in Iraq. It will also feature performance poetry. Kaldani is an interdisciplinary project using photographs and videos to develop poetry that brings awareness to the depleting identities of Iraqi-Christians. It will focus on four major topics: Family, Culture, Migration/Genocide, and Religion. By interviewing multiple community members such as: Priests, Non-Profit Founders and Volunteers, editors of The Chaldean News, Board Members of the Chaldean Chamber of Commerce, and other members of the Iraqi-Christian community, the book will examine the intersection of the many voices of Iraqi-Christian identity with American culture and how that identity has held on to tradition. Also, it will showcase how Iraqi-Christian identity has assimilated into American culture, most specifically, Detroit culture. For a group of people that have faced and are currently facing another mass genocide, a poetry book is critical for the preservation of a beautiful and very historic identity.
Oral Presentation Session #3: 1:15-2:30PM Room 301

Evans Cochran, Micala D.
PhD, Educational Studies (EDST)
Teacher Education
Dr. Joe Bishop
Community Organizing as Community Education: An Ethnographic Study of the Detroit Independent Freedom School Movement
Community Education is a term, mostly related to practices and processes which emerged out of the 1970s community need to find activities for youth. However, the term has deeper meanings when taken out of the institutional context, and placed into the control of the community. Education for the community is not limited to what can occur within a school building, nor is it limited to what youth need to learn to get jobs. When faced with the challenge of education vs schooling in multiple urban communities, residents fight back and take matters of education into their own hands. This research explores my experience learning how to become a community organizer in a community where I am not native to, but have family roots. This ethnography is an exploration of a learning experience about community organizing for education in an urban community.
Oral Presentation Session #1: 9:00-10:15AM Room 320

Frank, Angela
MSW, Social Work (M.S.W.)
Social Work
Dr. Ken Saldanha
A Reflection on Programming and Interventions Offered to Students in a Local Day Treatment Program
Forest day treatment is the most restrictive program of services on a continuum for students with special education needs. This program is generally designed to meet the needs of students with severe emotional impairments. The current presentation is a Case Study of Forest day treatment program/school, specifically outlining and evaluating the interventions and structures put in place to meet student's needs. The program offers students access to their education in a therapeutic milieu. It increases the ability of students to develop coping skills, while focusing on emotional/behavioral needs allowing for greater academic success. The program/school serves diverse school districts, creating a different dynamic for students in regard to resources and living environments. The students who attend Forest are mainly from the Ypsilanti, Lincoln, and Ann Arbor area. These locations are very diverse when compared to the remaining districts of Chelsea, Dexter, Whitmore Lake, Manchester, and Saline. Teachers, social workers, teaching assistants, ancillary staff, a school psychologist, and school psychiatrist provide an important component to each student's individualized treatment. Research-based approaches are utilized to meet the individual needs of students, with the desired outcome of the student returning to their general education setting.
Oral Presentation Session #2: 10:30-11:45AM Room 302

Garrett, Adesola; Goossens, Andrea
MA, Clinical Mental Health Counseling (CMHC)
Leadership & Counseling
Dr. Diane Parfitt
Why So Anxious? An Exploration of Counseling Students, Life Stressors, and Anxiety
Anxiety is a familiar feeling to many graduate students. Even counseling students, whose field involves helping others struggling with anxiety and stress-related disorders, experience being overwhelmed in their own life. Graduate students' anxiety levels can be heightened because of everything from racial discrimination to not feeling on par with their peers. Anxiety in counseling students has been shown to hamper clinical performance as well as the supervisor-supervisee relationship. Additionally, it makes empathizing with clients more difficult and lowers the student's belief in their own ability to succeed. Our research surveys current counseling graduate students in order to gauge their anxiety levels as well as the relationship between their anxiety and a variety of personal life situations. Although they are in the mental health field, counselors in training can still lack the support they need to reach their full potential. By becoming more aware of the circumstances facing our counseling students, we can focus on ways to address and reduce anxiety during their program.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Giasson, Shanay; Cusick, Michael; Levine, Jenna
MOT, Master of Occupational Therapy (MOT)
Health Sciences
Dr. Renuka Roche

Comparing Motor Signatures of Developmental Coordination Disorder/Autism Spectrum Disorder and Cerebellar Lesion Groups

Studies suggest that sensorimotor deficits seen individual with Developmental Coordination Disorder (DCD) or Autism Spectrum Disorder (ASD) maybe attributed to cerebellar dysfunction. However, they do not have visible structural damage of the cerebellum. We hypothesized that if there are physiological, cerebellar lesions in the DCD/ASD groups, their movement patterns may be similar to individuals with established cerebellar lesions (CBL). We did a scoping literature review to compare the performance of DCD/ ASD populations with the CBL group focusing of upper extremity / hand force production / control tasks. Force production is integral to using hands efficiently during activities of daily living (i.e. buttoning, writing). We established inclusion / exclusion criteria and searched research databases. We examined the articles (n = 34) for their key findings and established movement signatures using kinematic and kinetic variables for each population and compared them. We found that DCD / ASD groups share several features of force production / control with CBL group. These groups do not have difficulty with force production but with power (rate of force production). These groups have the greatest difficulty in producing force in time; therefore, TIMING IS KEY! We will discuss the implications for rehabilitation / occupational therapy practice.

Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Glick, Sarah J. S.
MA, Sociology (SOC)
Sociology, Anthropology, & Criminology
Dr. Robert Orrange

Emotional Service Animals in Society

What, exactly, is an emotional service animal (ESA)? What are they for, and why do people have them? Why can't they go where service dogs can go? In society today, service dogs are an important part of disabled peoples' daily lives. However, there is some confusion on what kinds of service dogs are needed, and for whom. In my study, interviews will be conducted with individuals who have emotional service animals, and they will be asked what problems and challenges they have faced, and if they have felt stigmatized by having an ESA. While there is a plethora of research on service dogs, there is almost none on how ESAs have impacted society. Rules and regulations need to be changed to allow people who have ESAs accompany them to more places.

Oral Presentation Session #1: 9:00-10:15AM Room 300

Good, Michelle
MM, Music Performance (Piano)
Music and Dance
Dr. Garik Pedersen

The Genius of Rhythmic Momentum in Chopin's Ballade No. 3 in A-Flat Major

An examination and piano performance will be given of Frederic Chopin's Ballade No. 3 in A-Flat Major. With rhythm being a primary function of the human body, it is important to the human experience to explore and understand rhythm. Chopin demonstrates the innate need for constant rhythm in music through his Ballade No. 3 in A-Flat Major. One sole rhythm provides the driving force through the entire ballade. This rhythm will be examined thoroughly, as it weaves itself through layers and explores the depths of this piano work. Join us as we explore how one rhythm can be stretched, layered and manipulated, proving that one simple element has the ability to aid in the creation of an entire musical masterpiece.

Oral Presentation Luncheon: 12:00-1:00PM Ballroom

Gore, Megan
PhD, Educational Leadership
Leadership & Counseling
Dr. Ronald Flowers

The Digital Self: A Qualitative Approach to Studying Female College Students' Use of Social Networking Platforms

The purpose of this research was to understand how female college students make use of social networks, specifically how they use the medium to connect with others. Researching social-networking use pertaining to the phenomenon of connection will give a richer understanding of female students' lived experience of social networking. Many quantitative studies have been conducted about social networking, but more qualitative measures are needed to explore social networking. With the continuously changing social-networking platforms, there is little research that sheds light on social-networking use among female college students. My goal was to conduct a qualitative research study that examined female college students' use of social-networking platforms, specifically how they use the medium to connect, by conducting an exploratory instrumental case study, using experience sampling and the VisionsLive qualitative software platform for data collection. My unit of analysis was six female college students attending a comprehensive Midwestern university. After synthesis of the data and development of the emergent themes, the core of how female college students are experiencing social networking to connect with others materialized. The essence of social-networking connection for these female participants was as a tool that evoked feelings and met needs, which is understood through the construction of shared meaning through virtual symbols.

Oral Presentation Session #2: 10:30-11:45AM Room 352

Graulich, Nathaniel
MA, Criminology and Criminal Justice (CRM)
Sociology, Anthropology, & Criminology
Dr. Gregg Barak

Criminalizing Debt: Routinizing Excessive Fines and Fees

Mantaining the criminal justice system and managing its cost is a growing area of concern for state and local governments in the U.S. In an effort to shift the ever expanding costs of government away from taxpayers without making any reductive changes to the criminal justice system, states are passing legislation that routinizes extortion based policy. These policies allows for the extortion of indigent citizens as a way to balance criminal justice budgets. This paper will explore the ways that police officers, courts and correctional agents, as well as private interests in many cases, are working together to achieve economic goals of the state. In many areas these practices have a disproportionate effect on the poor. It is clear that many of the punishments being dealt by the court only come as a result of a citizens inability to pay the court or a

private probation service the money they demand. Many of these fees can be seen as a violation of eighth amendment protections, due to their excessiveness In addition, more serious punishments are being given to indigent offenders due to their indigence, in violation of the fourteenth amendment.
Oral Presentation Session #3: 1:15-2:30PM Room 330

Green, Nicole
MA, Special Education (SP)
Special Education
Dr. Jaquelyn McGinnis
Nonverbal Education in the Elementary School Setting
Nonverbal communication includes gestures, facial expressions and body language. Typically people use both spoken word and nonverbal communication to express themselves. This research examines nonverbal communication that is the primary mode of communication for students who receive special education services. Facial expression, gestures and body language are often subtle and subsequently overlooked or misinterpreted. The subjects for this research were six special education teachers and six students who used nonverbal modes for communication. The students were observed in their classrooms during instruction. The researcher was looking for communication attempts and how these attempts were interpreted. Additionally, the teachers were interviewed to ascertain their knowledge level regarding nonverbal communication, training that they received on this topic and how they determined the communication strategies used by their students.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Griffis, Khadijah
MA, Communication (COMM)
Communication, Media, & Theater Arts
Dr. Dennis O'Grady
Communication Privacy Management of Mental Illness in Families
This presentation gives another understanding of the theory of communication privacy management. Communication privacy management theory (CPM) focuses on the disclosure of private information to and about others. CPM usually pertains to topics of disclosure relating to death, sex and finances. However, CPM rarely touches on how families reveal or conceal the status of mental illness. This literature review examines how mental illness is stigmatized and the negative effects associated with mental illness. Family members that have a loved one with mental illness have the decision to tell outsiders the status of the illness. Self-disclosure is further looked into, as co-ownership now plays a role in the decision to disclose the status of mental illness. This literature review will open the door to research questioning motivates family members have to conceal or reveal this information. Also, investigating the information disclosed. Once this happens, researchers will have an understanding of the communication privacy management of mental illness in families.
Oral Presentation Session #4: 2:45-4:00PM Room 352

Grzelak, Beth
PhD, Educational Leadership
Leadership & Counseling
Dr. David Anderson
Informing a Definition of 'Voice'
The Oxford English Dictionary defines voice as, "Sound produced by and characteristic of a specific person or animal...Sound produced by the vocal organs, esp. when speaking or singing, and regarded as characteristic of an individual person" (OED, online). The critical phrase within this definition is not "sound" but, rather, "regarded as characteristic of an individual person." How do we know if a K-12 school is developing the 'voice' of its student-citizens? How would one determine if the school is valuing the characteristics and being of an individual person? The first step would be to have a clear definition of what one means when they say 'voice'. The purpose of this presentation is share some initial thinking about such a definition, drawing upon the work of several social theorists. What I wish to understand, and better define, for myself is how an individual voice becomes heard; how that voice has impact; how it can have the potential to shape not just schools and communities, but society as well.
Oral Presentation Session #4: 2:45-4:00PM Room 320

Gupta, Harshit
MS, Polymers and Coatings Technology (PLT)
Engineering Technology
Dr. John Texter
Self-Dispersing and Stimuli-Responsive Polyurethane Dispersions
Free-energy driven dispersion formation is of intense interest because microscopic to nanoscopic phase separation from macroscopic phases of chemical components involves an intriguing balance of chemical forces that results in apparent thermodynamic stability. We report a single-pot approach to synthesizing polyurethanes (PUs) in solvent, wherein aqueous compatibility is induced by using imidazolium hydroxide salts (ionic liquids) as chain terminating groups. Effects of various diisocyanates, diols, crosslinking agents, and chain terminators on the creation of PUDs (polyurethane dispersions) are described with respect to impact on spontaneous self-dispersing when such PUs are dried (of solvent) and placed in water. The size evolution of such (self) dispersion is examined by videography and by dynamic light scattering, and size reduction from more strenuous activation by sonication is studied. Effects of indifferent salt on aqueous stability are measured, and anion-dependent stimuli-responsiveness is characterized. This stimuli-responsiveness appears based on tuning imidazolium-anion pair solubility by anion exchange. Film formation is also examined. Water-sensitive films with weak mechanical properties, but promising for hydrogel delivery applications, as well as mechanically robust and water-resistant films for protective coatings are formulated, depending on diisocyanate and diol selections.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Han, Na
PhD, Technology (PHD-TC)
Visual & Built Environments
Dr. Shinming Shyu
A Study on the Impacts of Indoor Environmental Quality on Student Academic Performance
The building envelope defines the boundary of a built environment, which functions to protect users from adverse natural elements, house various activities, and provide comfort and security. According to a study by the U.S. Environmental Protection Agency (EPA), Americans spend 90% of their time indoors. As a result, indoor environmental quality exerts critical impacts on the building's users' health, productivity, and performance. Multiple research outcomes and clinical records have provided evidence that poor indoor environmental quality will negatively impact human health and result in sick building syndrome (SBS) and building-related illness (BRI). Thus, students' academic performance will potentially be compromised by unhealthy indoor environmental of classrooms. The study will utilize EPA guidelines for school buildings and related data of student achievements as a baseline, which will then be compared with current requirements for indoor environmental systems, such as CO2 monitoring system, outside-air intake system and automatic ventilation systems, specified in building codes and related industry standards, including International Mechanical Code (IMC), International Energy Conservation Code (IECC), and ASHRAE 62.1-Ventilation standard.
Oral Presentation Session #3: 1:15-2:30PM Room 352

Harper, Jennifer
MS, Ecology Evolution and Organismal Biology (EEOB)
Biology
Dr. Margaret Hanes
History in the Herbarium at EMU: Investigating the Provenance of a Rare Algae Collection
The Phycotheca Boreali-Americana (PB-A) is a rare collection of North American preserved algae specimens collected between 1895 and 1919 by numerous professional and amateur botanists. These collections exist as exsiccata; a set of numbered herbarium specimens with printed labels. These specimens were organized into 46 bound fascicles containing 50 specimens each. Fascicles were replicated and 80 copies of each fascicle were created and distributed to herbaria throughout the world. In 1955, an alphabetical index to the PB-A and a report of where duplicate fascicles were deposited was produced. In these works, there is no mention of fascicles sent to Eastern Michigan University. However, ninety-seven unbound specimens from the PB-A were found in the attic of Sherzer Hall and incorporated in the Herbarium at EMU (EMC). Our work aims to investigate potential collector ties to EMU, identify when and from where EMU received the specimens, and finally to database the PB-A specimens.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Harper, Rodney
MS, Computer Aided Engineering (CAE)
Engineering Technology
Dr. Tony Shay
The Engineer Versus the Designer
In the past two decades in the CAD (Computer Aided Design) Industry, the required experience levels for CAD candidates can vary from very little to requiring years of experience. For students coming out of HS or college, experience can be a requirement difficult to achieve. This study presents the return on investment (ROI) point of view of looking for new candidates. Where can a company get a better bang for their buck? Should they be looking for a highly experienced engineer with low CAD skills? Or, on the other end of the spectrum, a highly skilled CAD designer that can be trained on the job as a more viable option.
Oral Presentation Session #2: 10:30-11:45AM Room 320

Harris, John Isaac
MPA, Master of Public Administration
Political Science
Dr. Jeffrey Bernstein
A Legal Memorandum To Our United States Congress For American-African People Reparations
This study discusses a quantitative and qualitative research approach towards the economic analysis of the Constitution surrounding slavery. The assumptions of available empirical evidence provided by scholars, lawyers, judges, historians, and anyone who gave some arguments and perspectives on the issue of the slave industry or the slave breeding industry will be synthesized. The significance of this study through the furtherance of available research will provide a concise argument in principles for reparations to the American-African people. A main source of inspiration will be Charles A. Beard's book, "An Economic Interpretation of the Constitution of the United States." Beard's theory reflects the position that the Founding Father, the (55) Framers, of the Constitution Convention of 1787 created an economic document to protect their personal interests. The study is to support the pro side of the argument for reparations to the American-African people. The American-African people are entitled to a portion of the wealth generated through their ancestors forced sacrifices and their labor as slaves. A Congressman introduced a bill concept in 1989 referred to an HR 40 – Commission to Study Reparation Proposals for African Americans Act cover the period from 1619 to 1865. However, it appears that the period that provides the most significant factual evidence of the economic growth facilitated by the slavery industry is from 1790 to 1860.
Oral Presentation Session #3: 1:15-2:30PM Room 300

Harrison, R.D., Linda M.
Cert. (Interdisciplinary), Cultural Museum Studies (CMS)
Sociology, Anthropology, & Criminology
Dr. Liza Cerroni-Long
American Cuisine: Ethnic Foods as Cultural Ambassadors
From the 1820s to the1920s, millions of immigrants came to America seeking the promise of a better life. Each ethnic group brought with it a variety of new ingredients and cooking styles that contributed to the growing diversity of American cuisine. Though each new wave of immigrants was at first subjected to social and political exclusion, the percolating of immigrant food-ways into American mainstream society

could not be prevented. In fact, ethnic cuisine was often sought out precisely for its "otherness" and exotic qualities. Ethnic restaurants serve as agents of change by providing an important vehicle for this intercultural "tasting." While negative attitudes and discrimination towards immigrant groups can be slow to change, this presentation examines how food and culinary traditions can act as powerful unifying social forces.
Oral Presentation Session #1: 9:00-10:15AM Room 330

Heck, Julia
PhD, Educational Leadership
Leadership & Counseling
Dr. Carmen McCallum
Exploring Effects of Organizational Structure in Higher Education when Academic and Student Affairs Divisions Merge
As institutions continue to address complex challenges and adapt to the ever-changing populations of students, staff, and faculty, it is imperative that institutions have better understandings of how to organize their institutional functions. For a long time it has been understood that there is not one model for organizational structure that could be used by or be a perfect fit for academic affairs and student affairs at all higher education institutions. This does not mean that there may not be universally applicable understandings of organizational effectiveness that could enhance academic affairs and student affairs work. As we look at colleges and universities, the increasing complexities are producing the perfect storm for institutions to need to react out of necessity, but there is little knowledge on how reactions involving organizational structural changes may then affect academic and student affairs, both at the institutional level and as professional fields. With this in mind, the purpose of this research is to explore the organizational structure of a merged Division of Academic and Student Affairs at EMU to better understand its effects on the functions of and professionals within academic affairs and student affairs.
Oral Presentation Session #4: 2:45-4:00PM Room 300

Herb, Kirstie
PhD, Clinical Psychology (PSYD)
Psychology
Dr. Karen Saules
The Core Symptoms of Binge Eating and Other Addictive Behaviors: A Network Analysis
The extent to which binge eating (BE) is akin to addiction versus disordered eating is not well understood. Using a network analytic approach, we explored which binge eating symptoms are most central in a healthy (HLTH; n = 155) and overweight/obese sample (OVW/OB; n = 150). College students (N = 305) completed the Recognizing Addictive Disorders Scale (RAD) and the Binge Eating Scale (BES). The RAD is a brief screener for a range of addictive behaviors. HLTH and OVW/OB groups did not differ on drugs, alcohol, smoking, video games, gambling, or sex, but did differ on binge eating, $F(303, 2) = 27.624$, $p = .002$, with the OVW/OB group having higher scores. BE networks revealed different central items for HLTH vs OVW/OB groups. Items relating to restriction and preoccupation with food/eating emerged as most central in the HLTH network whereas items relating to loss of control were most central to the OVW/OB network. Other group differences for HLTH and OVW/OB networks will be presented. Notably, the OVW/OB network was sparser, indicating weaker relationships between addictive behaviors. Findings suggest binge eating may best conceptualized from an eating disorder lens as compared to an addictive behavior.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Hettige, Praveen T W
MA, Applied Statistics
Mathematics
Dr. Andrew Ross
Classifying Mosquito Sounds Using Machine Learning Techniques
Every year several million deaths occur due to mosquito-borne diseases such as Malaria, Dengue, Zika virus and Yellow fever. Identifying the location and the type of mosquito is necessary to control the mosquito population. Therefore, this research focuses on the use of Support Vector Machines (SVM), K-Nearest Neighbors (KNN) and Random Forest (RF) to classify five mosquito species by features extracted from their wing-beat sounds. The input consists of 500 sound files (.wav) of five mosquito types (100 of each) from UCR insect classification contest. Our accuracy is roughly 91% for SVM, 87% for KNN and 89% for Random Forest.
Oral Presentation Session #1: 9:00-10:15AM Room 300

Hnezdilov, Yaroslav
MM, Music Performance (Piano)
Music and Dance
Ms. Allison Piippo
Correction of Fossilized English Pronunciation
The study applies the audio-articulation method to remedy English pronunciation fossilization. The method contains many drills that can help learners articulate better, and consequently produce more intelligible sounds.The research questions whether improvement would occur in the learners' perception of certain segments and prosody in the comprehensibility, accentedness, and fluency of their productions. The pronunciation instruction was effective, even in putatively fossilized individuals. This research contributes to research showing the partial independence of accent and other speech dimensions.
Oral Presentation Session #1: 9:00-10:15AM Room 301

Hobson, Mary
MS, Psychology (General Clinical) (PSYC)
Psychology
Dr. Catherine Peterson
Pediatric Cancer Standards of Care: The Relationship Between Parent Concerns and Psychosocial Standards of Care
This study examined how parent-reported neurocognitive and psychosocial concerns in childhood cancer survivors were matched to the published standards of care in pediatric psycho-oncology. Data collected from 99 parents of childhood cancer survivors using an online survey examined survivors' academic and social functioning, in addition to demographic data and information about the child's cancer diagnosis and treatment. Frequencies of the most common neurocognitive and psychosocial deficits reported by parents were examined, demonstrating that neurocognitive concerns are reported by a higher percentage of parents than are psychosocial concerns. The current

standards of psychosocial care practices in pediatric psychology emphasize support for psychosocial deficits, with much less focus on neurocognitive domains. This suggests that the current standards may not be addressing all of the concerns most frequently expressed by parents of childhood cancer survivors. Findings are discussed in light of the clinical implications for survivor care across psychosocial domains and across family members.
Oral Presentation Session #2: 10:30-11:45AM Room 300

Horning, Peter
MS, Orthotics and Prosthetics (ORPR)
Health Sciences
Ms. Sun Hae Jang
A Case Report: Biomechanical and Functional Analysis of AFOFC Componentry in Preventing Excessive Knee Flexion During Gait
The ankle-foot orthosis footwear combination (AFOFC) is an orthosis commonly used to address biomechanical pathologies of the leg including the ankle and knee. The AFOFC uses passive corrective forces as well as the ground-reaction force (GRF) to provide corrective alignment to the joints of the lower limb. Various components of the AFOFC may be tuned to address a patient's unique biomechanical presentation. Patients suffering from certain pathologies, such as knee flexion contracture or cerebral palsy, commonly present with excessive knee flexion during stance phase of gait. The pathology results in poor gait mechanics as well as excessive energy expenditure. This study is aimed to analyze the specific effectiveness of various AFOFC component combinations in addressing excessive knee flexion. One patient with a nine degree knee flexion contracture will be fit with six different AFOFC component setups. The patient will be recorded walking with each component combination and the video will then be used for visual gait analysis. Objective analysis of gait parameters will be completed and results will undergo statistical analysis to determine the most effective AFOFC compared to population norms for gait. Data collection is still in progress for this study.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Howard, LaMarcus D.
PhD, Educational Leadership
Leadership & Counseling
Dr. Rema Reynolds
The What & Where: Factors of Persistence Among African American Males in Higher Education
Recent trends indicate an increase in the number of African American students attending college, but the troubling reality is that more African American males are leaving without a degree in hand than any other racial/ethnic group attending American colleges and universities (Harvey, 2003). In fact, in 2002, African American males represented only 4.3% of the students enrolled at institutions of higher education, the same exact percentage as in 1976 (Harper, 2006a; Strayhorn, 2010), while in 2010, African American males represented less than 6% of the entire U.S. undergraduate population (U.S. Department of Education, 2012). African American students encounter unique combinations of financial, academic, and social challenges that can make the task of college degree completion challenging. Thus, this study aims to examine factors that determine college persistence towards degree attainment among African American males in comparison to their university geographic location.
Oral Presentation Session #4: 2:45-4:00PM Room 300

Huang, Renxiang
Cert., Geographic Information Systems (GIS) for Professionals
Geography & Geology
Dr. Xining Yang
What are the Effects of the Development and Application of Big Data in GIS in Recent Years?
The study of big data has become more and more popular in recent years. As a new research topic, more and more subjects are applying big data in their own research. Geography is with no exception as big data has been used in the last 10 years to analyze the problems of geographic information systems (GIS) and has made significant progress. The main purpose of this article is to provide a synoptic overview about the recent development and application of the geographic information system in the last few years under the big data era by providing examples on how to use big data in GIS.
Oral Presentation Session #4: 2:45-4:00PM Room 301

Humiston, Tori
MS, Psychology (General Clinical) (PSYC)
Psychology
Dr. Catherine Peterson
Dietary Intervention in Attention-Deficit/Hyperactivity Disorder: Systematic Review of the Literature and Pilot Exploratory Study
Attention-deficit/hyperactivity disorder is a highly prevalent disorder, and the primary form of symptom management recommended by physicians for this population is medication (Center for Disease Control and Prevention, 2018). However, some families seek alternative options other than medication due to side effects or adverse reactions (Brue, Oakland, & Thomas, 2002). Based on our pilot study and comprehensive literature review, diet changes or dietary supplements have emerged as common forms of alternative treatment. This cross-sectional study recruited parents online who report having a child who has been diagnosed with ADHD by a physician and assessed their perceptions of medication for ADHD and physician communication. In a sample of 115, only 13 reported not currently using medication to manage their child's ADHD symptoms. Of these individuals, 9 (69.2%) reported using dietary supplements and dietary changes to manage their child's ADHD symptoms. Konikowska and colleagues (2012) found that diets are a prominent, modifiable environmental factor for reducing problematic symptoms in this population. This presentation will present a literature review that examines the use of the most common dietary changes and supplements to manage ADHD symptoms after medication failure including the impact on the microbiome, and evidence for reduced behavioral problems.
Oral Presentation Session #2: 10:30-11:45AM Room 330

Abstracts Cont'd

Iwaniec, Brandon
MS, Chemistry (CHM)
Chemistry
Dr. Hedeel Evans
Alzheimer's Love Triangle: Investigating the Binding Interactions of Amyloid Beta, Acetylcholinesterase, and Humanin
Amyloid beta is a protein that causes the problematic aggregation of plaques and fibrils that are found in the brains of patients with Alzheimer's. Acetylcholinesterase (AChE) and humanin are two proteins that are known for their amyloid beta aggregation promotion and inhibition, respectively. Enzyme-linked immunosorbent assays (ELISA) were performed to identify the binding strength of a combination of proteins including acetylcholinesterase, amyloid beta, and humanin. Computational analysis was performed on the interaction of amyloid beta with an internal fragment of itself, amyloid beta 17-28. Interactions from ELISAs that were confirmed were acetylcholinesterase binding to amyloid beta and a novel binding interaction of acetylcholinesterase to humanin. The computational analysis showed that full length amyloid beta was shown to interact with amyloid beta 17-28. These results confirm important residues and binding partners in the protein protein interactions that may be occurring in a patient with Alzheimer's.
Oral Presentation Session #4: 2:45-4:00PM Room 352

Jawad, Hadeel Mohammed
PhD, Technology (PHD-TC)
Information Security & Applied Computing
Dr. Samir Tout
Introducing a New Programming Tool for High School Students
A new web-based tool was developed as a programming learning environment for high school students. The tool is free and available online at www.theCodeGenie.com. This tool was developed to integrate art and animation in teaching real programming language for high school students. The tool contains many template examples in JavaScript language which is a common programming language used by software developers. There are many tools that teach computer programming using Blocks-based language. The researcher thinks that high school students should write a program in a real programming language and in a fun, easy and interesting way at the same time which is the aim of this newly developed learning environment.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Jiwatode, Ambar
MS, Engineering Management (EGMT)
Engineering Technology
Ms. Allison Piippo
English for International Business
The major factor involved in international business is communication. Without proper communication business is not possible. Therefore, it has to have a common language. English as a Global communication language for business will eliminate the problem of communication. English is the most accepted language for International business. This presentation will be a discussion of the linguistic diversity in international trade and the importance of learning English in this diverse world. As English will become the global language for business communication, it will be important to learn to survive in the International Trade. English is the language most utilized for international communication between and among language communities. In addition, the presentation will discuss two-way communication as a medium for speaking with others.
Oral Presentation Session #2: 10:30-11:45AM Room 350

Jochems, Louis
MS, Ecology Evolution and Organismal Biology (EEOB)
Biology
Dr. Emily Grman
Seed Source and Increased Temperature Influenced Growth of Ten Prairie Plant Species
Restoring our lost prairies requires accommodating future conditions as earth's climate continues to warm. One strategy is assisted migration: translocating southern seed populations to susceptible regions. However, co-adaptation of local plants with their soil microbes at the recipient sites may limit the effectiveness of this strategy. We investigated the effects of seed source, soil microbes, and temperature on the growth of 10 native prairie species. We hypothesized that southern seeds and microbes will grow best under increased temperature, and that seeds grown with their home microbes will grow more. In field and growth chamber experiments, we grew seeds from three sources with five microbial communities under two temperatures. We found that warm season grasses grew more under high temperatures, whereas growth of other plants was more variable. Furthermore, seeds did not necessarily grow best in their home soils and southern seeds/microbes did not always grow best under warm temperatures. We conclude that assisted migration may not be necessary for successful restoration of Michigan prairies in response to climate warming.
Oral Presentation Session #4: 2:45-4:00PM Room 302

Johnson, Elisabeth
MA, Special Education (SP)
Special Education
Dr. Fries
Restorative Justice in Education
Restorative Justice is a practice that has been used in the prison system. Inmates that used restorative justice walked away with empathy, remorse and positively changed behavior. Teachers at a Michigan Virtual High School were given a survey asking if they have used restorative justice on students, what type and if it positively changed their behavior. The findings of this study were that students were developing empathy, taking ownership of their behavior, learning problem solving strategies, and eliminating negative behaviors. The limitations of this study were the small sample size of the teachers surveyed as well as a teacher bias toward restorative justice. Every teacher that stated they used restorative justice had positive findings in their students behavior as a result.
Oral Presentation Session #4: 2:45-4:00PM Room 320

Kandies, Amanda
MS, Ecology Evolution and Organismal Biology (EEOB)
Biology
Dr. Kristi Judd
A Tradeoff Between Floristic Quality and Nutrient Uptake After Phragmites Australis Removal in Great Lakes Coastal Wetlands
In many Great Lakes wetlands, invasive Phragmites australis (common reed) has displaced native communities and significant effort is devoted to its management. In this study, we investigated the tradeoff between floristic quality and nutrient retention in coastal wetlands five years after herbicide treatment was applied to remove Phragmites. We compared plant productivity, nutrient uptake, and floristic quality index (FQI) values in seven restored and four Phragmites-dominated sites along the western side of Lake Erie. The average aboveground biomass at Phragmites sites was four times greater than at restored sites (1903.01 grams and 415.48 grams m-2, respectively), indicating significantly greater nutrient uptake. The average floristic quality index was significantly greater for restored sites (7.1) than for Phragmites sites (2.38), indicating that restored sites support the re-establishment of native flora. These outcomes highlight trade-offs in of ecosystem services associated with invasive species management.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Kinkade, Kacie
MS, Psychology (General Experimental) (PSY)
Psychology
Dr. Rusty McIntyre
Perceptions of Others and Personality
Previous studies have indicated that role models inspire, reassure, and protect individuals. Role models who overcome strife because of hard work and effort inspire more effectively than role models who do not. Some people view ability as being a fixed/stable construct, but others view ability as malleable and improves with hard work and effort. This may also influence how individuals relate to role models who work hard to overcome strife. The study will assess how participants conceptualize abilities as static or malleable constructs, how strongly they identify with the new concept of "grit" or the psychological measure of persistence to overcome difficulties, and how easily they perceive themselves to be inspired. Participants' ratings on these constructs will then be used to predict how strongly they might identify with a role model who may be perceived as positive or negative, and have either used their abilities or effort. It is hypothesized that participants who see abilities as malleable and/or are higher in grit, and experience more inspiration will be more inspired by role models who are seen as positive and have achieved due to the model's efforts, compared to participants who view abilities as static or are lower in grit.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Klooster, Isaac Lee
MA, History (HST)
History & Philosophy
Dr. Ronald Delph
Russian Witchcraft and Medicine
During the sixteenth and seventeenth centuries, Western and Central European societies condemned countless numbers of middle-aged women to death for the crime of witchcraft and the practice of maleficium. Neighbors turned on neighbors and the marginalized in the community for reasons ranging from infertility to inclement weather, while the secular courts of the land sought resolution from the growing fears of the diabolic pact that threatened the social order. In Russia, however, it was male members in society who were overwhelmingly accused and executed for witchcraft and not women. What, in Russian society, made it different than those in Western and Central Europe which caused this complete reversal of what was conventionally defined as a "witch"? This thesis will attempt to prove why Russian witchcraft deviated so greatly from the norm.
Oral Presentation Session #2: 10:30-11:45AM Room 352

Kommineni, Raviteja
MS, Polymers and Coatings Technology (PLT)
Engineering Technology
Dr. Vijay Mannari
Crosslink Density: A Model to Predict Performance of Automotive Clear Coats
Automotive interior coatings for flexible and rigid substrate represents an important segment within automotive coating space. These coatings are used to protect plastic substrates from mechanical and chemical damage, besides providing color and aesthetics. They are expected to resist aggressive chemicals, fluids, and stains while maintaining their long-term physical appearance and mechanical integrity. Among many factors affecting these properties, the cross-link density (XLD) is the most predominant factor. XLD affects various mechanical properties like flexibility, hardness, toughness etc., and hence coatings with optimum XLD are desirable. We have formulated a range of 2K-polyurethane clear coats with varying XLDs, applied onto the widely used automotive plastic substrate at varying dry-film thickness (DFT). The XLD of these coatings has been determined by using Equilibrium Swelling technique using various solvents. These coatings have been tested for chemical, physical and mechanical properties as per standard test protocols. Analysis of the results has provided useful insight into the effect of XLD on various coating properties. Using these results we have developed a model to predict the effect of XLD on various coating properties as a function of their DFTs. This model is very useful for both formulators (Optimization of XLD) as well as the coating applicators (optimization of DFT).
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Krasnoff, Justin F.
MA, History (HST)
History & Philosophy
Dr. Ronald Delph
King James VI and the North Berwick Witch-Hunt: Denmark Mattered
Throughout his young life, James VI of Scotland, who would eventually become James I of England, had not shown any more interest in witches than most of his subjects. Then, starting in 1590 when he was 24, he became heavily involved in the infamous North Berwick witch-hunt, the largest one that Scotland had witnessed to that date. I will argue that this change in his attitude occurred because he had been exposed to more traditional, continental-European beliefs about witches on his extended,

six-month honeymoon in Denmark in 1589-90. Among many other issues, those beliefs included blaming severe weather problems on witchcraft, the use of torture during interrogations, and capital punishment. James had always faced real threats to his regime and gone from one crisis to another. When he returned to Scotland in May, 1590, and felt old threats reemerging or new ones developing, he acted in the same manner as the Danes had and blamed alleged witches for otherwise legitimate problems.
Oral Presentation Session #1: 9:00-10:15AM Room 350

Kulkarni, Swatee B; Al-Jundi, Hamza; Ge, Yang; Pallye, Roopkatha
PhD, Technology (PHD-TC)
Engineering Technology
Dr. Al Bellamy
Factors Affecting Acceptance of Autonomous Vehicles (AV) in Daily Life
The future of transport industry is speculated to consist of a prodigious number of driverless vehicles and interconnected smart vehicles. Our research tries to comprehend how the current population across different age groups and genders would perceive the usefulness and the ease of use such vehicles in their life regularly based on their personality traits and the social influence on them. The more they perceive it to be useful and easy to use, is the more they intend to use it in their lives on a daily basis. From our study, it can be speculated that social influence and personality traits of openness to experience does have a positive relationship with the intention to use while personality trait of neuroticism is not related to the intention of using AV in daily life. Further, it is found out that compared to men, women's openness to experience new things affect their intention to use such vehicles. But on the contrary, when it comes to social influence, it is the vice versa. Age too influences the intention to use, as the younger generation is more open to experience new things and hence intends to use autonomous vehicles.
Oral Presentation Session #3: 1:15-2:30PM Room 302

Kurz, Sarah; Martin, Kyle
MA, Educational Leadership—Higher Education Student Affairs (HESA)
Leadership & Counseling
Dr. Carmen McCallum
Graduate Student Mental Health: Turning Research to Practice
Graduate student mental health is a significant concern with large percentages of students reporting emotional stress. The normalization of depression, anxiety, and stress in graduate school can lead students to not seek help when facing serious mental health issues. This presentation will focus on increasing our understanding of the types of mental health issues student experience and what sparks the onset among at-risk populations. Recommendations for programming that are specific to graduate students with mental health concerns will be discussed.
Oral Presentation Session #4: 2:45-4:00PM Room 352

Lall, Dave
MS, Molecular/Cellular Biology (MCBI)
Biology
Dr. Daniel Clemans
Impact of the SpaCBA Encoding Pilin of *Lactobacillus Rhamnosus GG* (LGG) on Coaggregation with Various Gut Microbes
The human gut is home to many bacteria that play a role in health and disease. Some have been evaluated as probiotic supplements for the treatment of various gastrointestinal diseases. Various molecular mechanisms of the probiotic Lactobacillus rhamnosus GG (LGG) have been studied but others still need to be explored. The spaCBA gene encodes surface pilins that mediate adherence to host cells and biofilm formation. The purpose of this study was to determine if SpaCBA mediates the coaggregation between LGG and Bacteroides/ Parabacteroides gut microbes. To accomplish this, a Gibson Assembly construct was made with pUC19, sortase (srtC) and spaC gene fragments from LGG and an erythromycin resistance gene (ermC) from plasmid pGK12. This new plasmid construct was cloned into Escherichia coli DH5 , isolated, and transformed into LGG. Recombination resulted in spaCBA-deficient mutants of LGG. Biofilms between mutant LGG and other gut microbes still need to be done and will be compared to biofilms between the wild-type LGG and the same gut microbes. Though not complete, this study will bring additional insight to the function of the SpaCBA pilus allowing a greater understanding of LGG's probiotic role in the human gut.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Lank, Stephen
MA, Literature (LITR)
English Language & Literature
Dr. Abby Coykendall
Flotsam, Eddies and 'Providence': Actants & Assemblage in Defoe's Robinson Crusoe
Daniel Defoe's Robinson Crusoe is replete with objects. The novel's conspicuous preoccupation with objects suggests an anxiety regarding the stability of subject-object relations. This anxiety is foregrounded when Defoe's eponymous protagonist first washes ashore, literally flotsam, a human floating among a body of objects. In following the implications of Bruno Latour's actor-network theory, I argue that objects crucially drive the Crusoe narrative as nonhuman 'actants', displaying their ability to elicit human response, drive action, affect change, and assert themselves as vital components in the island's non-human assemblage, thereby displacing the centrality of the human narrative.
Oral Presentation Session #1: 9:00-10:15AM Room 301

Leland, Rebecca; Jang, Sun Hae
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Ms. Sun Hae Jang
A Case Resport: Biomechanical Analysis of Different Pes Planus Modification Techniques in Fabricating Foot Orthoses
Flexible pes planus is a condition where the medial longitudinal arch of the foot flattens during weight bearing and returns when weight is removed. This causes the foot to be excessively pronated during weight

bearing. Foot orthoses are a common treatment for flexible pes planus and are used to alter the structure of the foot. This study will try to provide information that will focus on the question of which modification method for custom foot orthoses is the most effective for a patient with a pes planus foot. In this study, custom orthoses made with different modification techniques will be applied to a pes planus foot and analyzed. Both casting techniques, foam box and slipper casting, will be used to capture the foot shape. Different amounts of heel wedging will be used for the custom orthoses: 0 degrees, 3 degrees, and 5 degrees. The custom orthoses will also test 0, 50%, and 100% forefoot wedging, with 100% correction being 10 degrees. The static alignment of the foot will be assessed for each of these conditions to determine which orthosis provides the best alignment for this pes planus foot. The patient's preference and comfort will also be noted for each orthosis.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Li, Shuxiao
MS, Polymers and Coatings Technology (PLT)
Technology & Professional Services Management
John Texter
Liquid Polymerized Ionic Liquids - New Additives for Plasticization
Ionic liquids are known to function as plasticizers in many resinous materials, and one of their more significant limitations is their inherent tendency to leach out of their host matrix. Polymerized ionic liquids (PIL) generally are solids, but a few examples have been reported that also exhibit liquidity in the neighborhood of room temperature, liquid polymerized ionic liquids (LPIL). Such polymers potentially can be anchored within various matrices to provide plasticization without a significant possibility of leaching. We report development of a platform suitable for exploring LPIL liquidity and plasticization based on the monomer 11-bromoundecylacrylate (AcC11Br). Poly(AcC11Br), is itself a liquid polymer, and can be easily used to alkylate 1-methylimidazole to produce poly(AcC11C1ImBr-co-AcC11Br). Molecular weight consequences of how this material is produced are explored. Various reaction conditions are explored to examine how extensively 1-methylimidazole can be attached to this polymer, and the extent of alkylation is determined quantitatively by silver ion potentiometry. These polymers retain liquidity at and below 60% alkylation with 1-methyimidazole. Many examples produced in the past ten years suggest that the fully alkylated moiety does not melt or exhibit liquidity. We establish a connection between 1-methylimidazolium alkylation and LPIL behavior. We also present how various reagents affect liquidity, when ion exchanged for the initial bromide anion. Leaching is examined in physically mixed mixtures, and is shown to be dramatically reduced when physically mixed with certain materials. Leaching is completely suppressed when attachments to the matrix are engineered, and this observation expands the number of new material applications. Anion exchange is studied and used to prepare several new LPIL examples. Arrested leaching and other applications are discussed.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Li, Jinbo
MS, Geographic Information Systems (GIS)
Geography & Geology
Dr. Zachary Moore
Comparisons of How Tourism can Shape the Economy Structure Differently
Economic transformation is a process of change from a fundamental economy to an advanced and developed economy. Economic transformation is a significant field of study because it really depends on the opportunities they have, such as geographic locations, nature and climates. The North Eastern China's economy was built on the crude oil industry and economy structure nowadays faced the recession of old industry. In recent years, this region has been able to grow their economy through tourism industry and other financial services. For example, the snow villages and ski resorts are common reasons people come to visit. Similarly, Dubai's economy was initially benefited from revenues of the oil industry. In contemporary Dubai, revenue from petroleum and natural gas currently account for less than 5% of the Emirates GDP. Dubai's economy reshaped from primary industry mainly on crude oil to tertiary industry such as tourism and other services such as finance.
Oral Presentation Session #1: 9:00-10:15AM Room 330

Li, Shantong
MA, Applied Statistics
Mathematics
Khairul Islam
Evaluating Users and Media Movie Ratings: Applications of Parametric and Nonparametric Tests
Movie ratings are available in two formats of scores, the media score and the users' score. The media score is available before the users' score. Because the users are more in numbers than the media scorers are, the users' score is more reliable than the media score. Does the mean media score differ significantly from the mean users' score? The answer is important to people who love watching movies in the first begging, based on the media soccer if that is authentic. Given these facts, an evaluation of consistency of users-media score is important. In this study, we employ parametric and non-parametric tests to evaluate if there is any significant difference in the means of users' and media scores, which leads to better recommendation of ratings to allow customer satisfaction.
Oral Presentation Session #3: 1:15-2:30PM Room 301

Liang, Qingchen
MA, Applied Statistics
Mathematics
Khairul Islam
On Estimating Prevalence or Proportion Using a Randomized Response Model: Comparing Power by an Empirical Approach
The need to estimate proportion or prevalence of an attribute using surveys arises frequently in such diverse fields as medicine, epidemiology, sociology, and economics. When the attribute in question has legal or social ramifications, potential subjects may provide untruthful responses, leading to biased estimates. In such cases, it may be better to use Warner's randomized response technique or some variant thereof, so that a subject's attribute cannot be deduced from the survey. In this study, we

revisit some popular randomized response approaches and compare their respective powers (coverage probabilities) using Monte Carlo simulation.
Oral Presentation Session #4: 2:45-4:00PM Room 301

Liu, I Yu
MS, Information Systems (MSIS)
Computer Information Systems
Dr. Huei Lee
Using Business Analytics Framework for Integrating The Important Data of Autonomous Vehicle
Autonomous vehicle, big data and business analytics are popular nouns in recent IT world. Especially of autonomous vehicle, some of universities concentrate on the project of driverless car and strengthen the various parts of the inside software of autonomous vehicle. The content of the research identifies the data from autonomous vehicle, integrating the data for business analytics. The content of the research also designs the framework for data analytics. The data can illustrate the conditions of autonomous vehicle, and the research uses the data to assume real environment of autonomous vehicle. In addition, the research conducts that the analytical data has strong values for company. For the business, the company can purchase the efficient data for their business demand and analyze data accuracy. Besides, the research evaluates people's satisfaction of autonomous vehicle and driverless car's credibility for people. Therefore, the research has the questionnaire designed for 65 people, to see the result of satisfaction and credibility. The framework also illustrates the methodology between autonomous vehicle, big data and business analytics.
Oral Presentation Session #3: 1:15-2:30PM Room 302

Macaulay, Taylor; Peterson, Catherine
MS, Psychology (General Clinical) (PSYC)
Psychology
Dr. Catherine Peterson
Food Allergy Attitudes and Stigma in College Students
The incidence of adult-onset food allergies is increasing (Gupta, Blumenstock, Warren, Mittal, Kotowska, & Smith, 2017). College students may be diagnosed with adult-onset food allergies or may have pre-existing food allergies. The college campus environment creates potential for students with food allergies to experience stigma due to beliefs or attitudes held about food allergies. Research has shown parent and child-reported stigma with the disclosure of food allergies to schools (Dean, Fenton, Shannon, Elliot, & Clarke, 2014). No research to date has examined attitudes related to stigma against food allergies in college students. A sample of 306 students with and without food allergies completed an online survey including scenarios about encountering food allergies on campus. High tolerance levels were reported for all scenarios. For example, 65.9% of those surveyed responded with the most tolerant answer when asked whether they would want to take someone out to eat on a date if they knew of the person's food allergies. Social desirability may play a role in the high tolerance levels reported. Despite the high levels of tolerance reported, tolerance was not universally found. Clinical implications indicate the need to address social pressures of fitting in with peer groups at the college level.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Mamut, Ryan
MA, Mathematics (MTH)
Mathematics
Dr. Roxanne Katus
Determining Plasma Pause Location
The plasmapause defines the edge of the plasmasphere, where the density may rapidly drop by one or more orders of magnitude. In the study of magnetospheric physics the location of the plasmapause provides a wealth of information. NASA's Imager for Magnetopause-to-Aurora Global Exploration (IMAGE) satellite gave an unprecedented view of the plasmasphere during its mission (2000-2005). Data from the IMAGE Extreme Ultraviolet (EUV) instrument can be converted to He+ densities and mapped to the equatorial plane. In an externally funded study we use this data to complete the creation of a comprehensive database of plasmapause locations derived from NASA's IMAGE EUV data that will be made available publicly on NASA's data archive website.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Manchanda, Himanshu
MS, Polymers and Coatings Technology (PLT)
Engineering Technology
Dr. Vijay Mannari
Super Photo-base Initiated Organic-Inorganic Hybrid Coatings by Dual-Cure Mechanism
The coatings industry is teeming with new inventions each year, with minimal exposure to hazardous chemicals and waste as one of its goals. The idea of reducing the harmful emissions from paints while improving upon their existing performance, has led to the exploitation of plenty of new chemistries and chemicals in the recent past. One such promising area lies in the development of an Organic-Inorganic hybrid (OIH) coating system by leveraging the dual-cure chemistry involving Michael-Addition (MA) of acetoacetate and acrylate moieties as well as UV-initiated moisture curing of silane functional groups. The focus of this research is to exploit the MA reaction for applications such as replacement of harmful acrylic monomers with acetoacetate-based resins synthesised in our labs as well as a prospective coating system for additive manufacturing. A photo base generator (PBG) has been used that generates, in-situ, a super base that is capable of instantly kicking off MA reaction resulting in rapid curing. The super base is also expected to catalyse moisture-curing reaction of the silane functional groups also present in the system. Coatings have been formulated using uniquely designed acrylic oligomers (MA-acceptor), acetoacetate functional reactive diluents (MA-donors) and organo-silanes (sol-gel precursors), besides super PBG. The study highlights many technical and environmental benefits of these OIH coatings with great potential for commercial exploitation.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Marnikovic, Silvija
MA, Teaching English to Speakers of Other Languages / TESOL
World Languages
Dr. Wendy Wang
NNEST/NEST Dichotomy: In Search of Ways of Bridging the Gap
Over the last 15 years, considerable research has shed light on the issues

surrounding NNEST identity. Since 1996, after Braine's (1996) seminal colloquium at the 30th Annual TESOL Convention and publication of two edited volumes (Braine, 1999; Kamhi-Stein, 2004), there has been a growing interest in issues related to nonnative-English-speaking (NNES) educators in the TESOL field and the NNEST-NEST dichotomy. It is not only the NNEST who struggle with their ELT professional identity. Recent initiatives and research on language teacher preparation programs indicated the need for these programs to help all future educators, regardless of their language status, to develop both declarative knowledge and procedural knowledge in teaching (Bailey, 2002; Pasternak & Bailey, 2004). This presentation briefly outlines the debate surrounding the NNEST-NEST dichotomy and then examines how ELT professionals can begin to bridge the gap between their worlds. Specifically, this presenter will argue for the value of collaborative projects such as co-teaching models and collaborative professional development, highlighting the notion that what makes a difference in the classroom is teachers' knowledge, training in ELT and expertise, and not the native-nonnative dichotomy (Phothongsunan & Suwanarak, 2008). These suggestions will be exemplified by specific examples from both pre-service teaching and in-service teaching contexts. The attendees will benefit by gaining an understanding of key debates in the area of NEST-NNEST issues, thus increasing their awareness as language teachers and educators, regardless of their position in the Kachru's circles. The presenter will provide attendees with a handout with seminal references.

Oral Presentation Session #1: 9:00-10:15AM Room 302

Mathison, Rahn; Gilmore, Mackenzie
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Dr. Frank Fedel

Applications for Augmented Reality in Orthotics and Prosthetics

Although AR technology is new to orthotics and prosthetics, nursing students have reported successful integration of AR into their school work, leading to positive learning outcomes (Ferguson, 2015). Zhu et al. (2014) reported greater aptitude towards cognitive-psychomotor tasks as well as comprehension of spatial visual relationships with AR. The use of AR in healthcare education increases the speed and ease at which students learn while providing the instructor another way to assess students. We created an android-compatible AR application, "E-Reality," which has the ability to accept user-generated content (e.g., virtual 3D anatomical models) and recognize customizable visual targets ("pattern target markers") to trigger display of those models. A 3D model of the skeletal structure of the pelvis was created from MRI images. A single representative MRI image was converted into a visual target. The application was then programmed to display the 3D model when the target MRI image was viewed using the application. This process was repeated using a 3D model and visual target created from a CT scan of a scapula. The application successfully displayed the 3D model of the pelvis when the target MRI image was scanned. The 3D model could be viewed from any angle as long as the desired target stayed within view of the camera's lens. This allowed for the ability to revolve completely around the model, get an overhead perspective, zoom in, and even view portions of the inferior surface of the model - until the target marker was out of view. The model accurately depicted the individual characteristics of the patients' scanned bones. One could clearly observe potential deformities or structural anomalies within the patient scan(s). The CT scan of the scapula produced equally successful results. Implementation of AR in healthcare education is in its infancy but there are indications that it will have a significant impact. Our application may enhance student & clinician understanding of specific anatomy, which is crucial to the development of an appropriate treatment plan. AR can be utilized to view anatomy in 3D, from models created from patient-specific MRIs and CT scans. This application could be utilized by students, clinicians, and patients to further understand anatomy and discuss clinical presentation and treatment goals.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Matin, Negar Heidari
PhD, Technology (PHD-TC)
Visual & Built Environments
Dr. Ali Eydgahi and Dr. Shimming Shyu

Impact of Facade Configurations on Visual Comfort Metrics of Responsive Systems

Responsive facades as high-performance systems manage real-time environmental data for adaptation of building envelopes. This study presents a new method to measure visual comfort in responsive façade buildings. The proposed method determines the influence of various percentage of porosity and granularity on both glare-based and illuminance-based metrics of visual comfort in numerous façade configuration scenarios. The method also allows comparing the influence of facade configurations on visual comfort metrics. By comparing results of various occupancy hours, optimum amounts of porosity and granularity percentage can be obtained in order to maximize visual comfort metrics in various hours of a day. This method assists architects to evaluate and compare various configurations utilized in responsive façade design, which can improve users' visual satisfaction. The proposed method was tested on a reference office room located in 2B ASHRAE climate zone utilizing Rhino software and Diva plug-in. Then, the value of useful daylight illuminance and daylight glare probability during various occupancy hours were measured and compared. The reference office shows a typical was box model as is commonly utilized for conceptual design explorations. The simulation result showed implementation of responsive facades with adjustable granularity and porosity percentage can improve visual metrics about 60% in comparison to non-responsive facades.

Oral Presentation Session #2: 10:30-11:45AM Room 320

Mayweather, Dar
PhD, Educational Leadership
Leadership & Counseling
Dr. Rema Reynolds

It's Not A Call Out, It's A Call In: How White Male Leaders In Higher Education Show Support for Social Justice Efforts

There is an overwhelming dearth of research on White men in higher education (McLaughlin, 2017). Specifically, how White heterosexual men understand and support social justice efforts (Patton, 2015). With increasing diversity of student population, the continuous exploration of identity, and marginalized college student movements in higher education, it is becoming imperative that higher education staff, faculty, and administors support student led social justice efforts (Ashlee &

Ashlee, 2016). While many higher education professionals believe they play an inherent role in promoting equity and inclusion, this presentation is focused on the literature that identifies how White men have and can show up to support social justice efforts.
Oral Presentation Session #2: 10:30-11:45AM Room 301

McCormick, Luke D.
MS, Exercise Physiology (EXP)
Health Promotion and Human Performance
Dr. Rebecca W. Moore

Predictability of VO2max from Three Commercially Available Devices

Twenty-seven participants came to the Running Science Laboratory twice. During visit 1, participants completed a maximal graded exercise test to determine VO2max. The participant determined a self-selected speed which remained constant throughout the test while only grade increased by 2% every 2 minutes until volitional exhaustion. During visit 2, participants wore two heart rate monitors simultaneously (Device A and V) and laid still for 6 minutes to estimate VO2max. These two devices were replaced by a GPS watch and participants completed a 15-minute submaximal outdoor run which estimated VO2max. Pearson Correlations and Repeated Measures ANOVA were utilized to compare estimated VO2max from the three devices to measured VO2max.
Oral Presentation Session #4: 2:45-4:00PM Room 350

McDiarmid, Leah
MS, Psychology (Clinical Behavioral) (PSYB)
Psychology
Dr. Michelle Byrd

Miscarried Helping Among Parents of Children with Cancer

Miscarried helping is a maladaptive process characterized by ineffective communication by well-intentioned parents of children with chronic illnesses. This study sought to examine the influence of parent-reported child functioning and parental depression and anxiety on miscarried helping in children with oncologic disorders. Primary caregivers (N=132), ages 25-57 (M=41.16, SD=7.05), of pediatric cancer patients, ages 3-17 (M=9.80, SD=4.64), completed an online survey. Caregivers reported their child's physical and emotional functioning, their own depressive and anxious symptoms, and miscarried helping. Data analyses included bivariate correlations and hierarchical regression analysis. Miscarried helping was unrelated to child age at diagnosis, caregiver age, or perceived prognosis. Miscarried helping was hierarchically regressed onto conceptually relevant variables in the final model (Adjusted R2 =.26, F (4,127)= 11.39).
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

McDonald, Kristen; Jang, Sun Hae
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Ms. Sun Hae Jang

A Case Report: Functional Outcome Measures of Lower Limb Orthoses for the Pediatric Population

Improvements in mobility are often the primary goal of lower limb orthotic intervention, and it is important to have outcomes that can measure the success of treatment. Currently, functional mobility outcome measures for children using lower limb orthoses have not been tested for viability of use in practice. This study tests various functional outcome measures in order to determine which measures establish benefits of lower limb orthoses within specific parameters. The parameters used in this study include direct observation by clinicians, duration of less than 20 minutes, and not requiring the purchase of special equipment Within those parameters, the Functional Reach Test (FRT), Modified Timed Up and Go (mTUG) Test, and 10 Meter Walk Test (10MWT) were identified as possible measures to gauge the efficacy of orthotic intervention. A case study was conducted to ascertain if these measures are sensitive enough to distinguish between conditions of the child completing the tests with and without orthoses.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Meeker, Jodi; Luke, Gray
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Ms. Sun Hae Jang

Measurement of Shank to Vertical Angle and Thigh to Vertical Angle in Healthy Adults

Ankle foot orthoses (AFO) are commonly used in the treatment of neurological disorders. The goal of AFO treatment is to control motion, compensate for muscular weakness, correct musculoskeletal deformities, and prevent secondary deformities (Owen, 2010). There are several AFO designs, including the ankle foot orthosis-footwear combination (AFO-FC) (Eddison et al., 2012). Elaine Owen MSc, SRP, MCSP, is a leading supporter of the AFO-FC design. Her focus is on the importance modification of shank to vertical angle (SVA) through footwear while treating patients using AFO. Her research has determined that the optimal SVA should be between 10-12 degrees inclined in double stance to bring the knee center over the middle of the foot at mid-stance of gait (Owen, 2010). Currently, there is a lack of research in the measurement of SVA in healthy adults during different periods of the gait cycle. Additionally, there is a lack of information found on thigh to vertical angle (TVA). The purpose of our research is to find normal values for the SVA and TVA throughout the gait cycle for healthy adults. Finding a normal range for SVA and TVA measurements throughout the gait cycle can aid orthotists in choosing proper AFO-FC design and modification. Additionally, it may help measure the effectiveness of lower limb orthotic treatment.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Meyer, Hannah
MS, Historic Preservation (HPRS)
Geography & Geology
Dr. Matt Cook

Not What It Seems: The Treatment of Insane African Americans in Kirkbride Facilities

By looking at the treatment of insane African American patients in Kirkbride facilities—and some cottage-plan examples—in the nineteenth century, one can see how a social institution established with the most honorable intentions can inadvertently be transformed by the behavior of a surrounding society. These effects are felt well into the present era, and it is important to own our history of denying mental health services for mentally ill African Americans in order to move away from and break the patterns of inequality in mental health care. The treatment of mentally ill African Americans was invariably a function of prevailing community

attitudes and practices during the nineteenth century, and the willingness to accept insane African American patients varied from institution to institution in both the North and South.
Oral Presentation Session #4: 2:45-4:00PM Room 352

Michel, Marnie
MPA, Master of Public Administration
Political Science
Dr. Jeffrey Bernstein
Modeling the Wave of Future Healthcare Delivery: Direct Primary Care
The Medicaid model of healthcare delivery has been under scrutiny for decades. Limited accessibility, decreasing provider participation rates, questionable quality of care, and skyrocketing costs indicate that the current Medicaid delivery model is not sustainable. This research investigates utilizing Direct Primary Care (DPC) as an alternative option to deliver healthcare services to Medicaid subscribers. DPC is an emerging and innovative version of healthcare provision that has been proven to provide care that is both high quality and cost effective. The DPC model removes traditional insurance billing from medical practice, resulting in a vast reduction of the "red tape" that currently deters physicians from accepting Medicaid patients. DPC increases accessibility by increasing physician autonomy in care delivery, in part by encouraging providers to utilize alternative routes of care provision, such as telemedicine. Increased primary care accessibility diminishes costly chronic condition complications and reduces visits to specialists. Costs are controlled through physician rate negotiations for costly laboratory and diagnostic tests as well as for pharmaceuticals. The DPC model does have limitations. Patient access to specialists will not be increased. However, the need for specialists should be reduced through increased access to routine maintenance and preventative care.
Oral Presentation Session #4: 2:45-4:00PM Room 350

Micik, Emily
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Dr. Frank J. Fedel
Development and Use of Augmented Reality in Orthotic Education
Virtual simulation of a clinical procedure is an effective educational medium that improves knowledge and skill retention while increasing performance confidence (Grover, 2017; Miranda, 2017). Widespread use of such simulations does not increase educational costs (Grover, 2017), and enables learners to have early access to relevant skill-building opportunities that may otherwise be limited due to necessary patient involvement (Charles, 2017; Strelzow, 2017). Augmented reality (AR) is a technology that provides visible overlays of 3D models onto a view of a real-world setting based on recognition of unique visual cues (target images). It can provide interaction with the virtual overlay, including scaled viewing, rotation, and even animation. Learning about anatomical structures and their motion requires knowledge and understanding of intricate internal structures, a topic which is difficult to teach using conventional media. Using an interactive, accurate interface that demonstrates motions of internal structures during posture changes would provide visual insight into osteokinematics that is currently unavailable. This project was based on design and creation of a custom app (MRIto3D) which allows recognition of selected 2D target images and overlays 3D anatomical models with animations that are viewable via AR using the Android operating system.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Miele, Anna
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Ms. Sun Hae Jang
A Case Study: Biomechanical and Functional Analysis of Three Lumbosacral Orthoses for Low Back Pain
One 26 year old active male was examined through a case study of lower back pain (LBP). Questionnaires were used to obtain qualitative data pertaining to the orthosis worn and its effectiveness in reducing pain. A Lumbosacral Orthosis (LSO) is a device designed to alter the biomechanics of the lower trunk to both immobilize and support it. Three types of Lumbosacral orthoses which are commonly prescribed for LBP, were given to the participant to wear for one day each with at least one day break in between the orthoses being alternated. The orthoses used in this case study included a Soft Canvas Corset with Posterior Metal Stays, Elastic Belt with a Posterior Panel and a Knight Type Orthosis. Each orthosis was worn for a minimum of 8 hours with no more than 30 minute breaks throughout the day. The wearer's likes and dislikes of each type of orthosis were recorded throughout the study. The participant's pain levels were recorded at baseline and while wearing each. A functional capacity scale was also used to determine pain levels as they relate to general activity, ability to concentrate, and work. Active Range of Motion (ROM) was measured during left and right lateral trunk lean, trunk flexion, and trunk extension.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Mitchell, Kelsey
MS, Ecology Evolution and Organismal Biology (EEOB)
Biology
Dr. Katherine Greenwald
Comparison of Skin Glands of Sexual and Unisexual Ambystoma Salamanders Using Scanning Electron Microscopy
Cutaneous mucous and granular glands are characteristic of amphibians and play an integral role in predator defense mechanisms. In Ambystoma salamanders, these dermal glands are concentrated along the back and dorsal ridge of the tail. Unisexual (all female) Ambystoma salamanders reproduce via kleptogenesis, in which insemination by a sympatric sexual male is necessary to trigger egg development. The zygote can develop gynogenetically or via incorporation of the male's genome into the ovum. This unique reproductive mode results in individuals having biotypes (genome combinations) ranging from diploid to pentaploid. Although unisexual salamanders have persisted for 6 million years, kleptogenesis has ecological drawbacks. For example, unisexual salamanders have low dispersal ability and reduced fecundity relative to sexual taxa. The purpose of this study was to ascertain if unisexual salamanders have a higher concentration of cutaneous glands when compared to Ambystoma laterale, one of the sympatric sperm donors. Genotyped tail tips from both Ambystoma laterale and triploid unisexual salamanders were imaged using an Amray Scanning Electron 1820 Microscope. Preliminary data suggests that unisexuals have higher concentrations of cutaneous glands. The higher number of dermal glands may offer

the unisexuals greater protection against predation when compared to sympatric sexual taxa.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Mitchell, Lauren
MA, Communication (COMM)
Communication, Media, & Theater Arts
Dr. Jeannette Kindred
Exploring the Intersections of Family and Health Communication: An Investigation of Current and Future Trends
While researchers in numerous disciplines continue to produce research in the area of health prevention, communication scholars have yet to fully examine the relationship between communication and improved health outcomes. This is especially true of scholars studying the intersections of health and family communication—which is unfortunate as families serve as initial and primary agents of socialization regarding health attitudes and practices. This review of contemporary communication scholarship will address the topic of parent-child communication as it pertains to individual health-related behaviors. Individual health-related behaviors encompass all the behaviors contributing to personal health and wellness that an individual person is responsible for maintaining. This includes areas such as diet, exercise, nutrition and weight management, but also alcohol and drug use as well as sexual and reproductive health. Current literature pertaining to these areas will be reviewed and critiqued. This presentation advances the argument that continued research aimed at understanding the link between family and health communication may help to uncover the nature and causes of individual health-related issues.
Oral Presentation Session #4: 2:45-4:00PM Room 350

Mora, Irene
MA, History (HST)
History & Philosophy
Dr. Mary-Elizabeth Murphy
Mujeres Forging a New Identity in Michigan
The current project places Latina histories into the foreground in order to analyze narratives of Latina activism. Exploring Latina activism in the Midwest is imperative in obtaining a complex history of Latina politics and organizing. Currently the historiography surrounding Latina activism has been focused in the Southwest, and the current project seeks to expand activist geographies in Latina historiography. This project investigates Latina activism in Michigan because Latino/a immigration to the Midwest has been steadily climbing since the twentieth century, but little has been written about Latinos/as living in the Midwest. Latinos/as immigrated to the Midwest for some of the same reasons as other racial groups, including factory jobs, the perception of racial tolerance, and the Bracero Program. Latino/a populations in the Midwest have rich histories of activism and organizing. This project will revolve around Mujeres Unidas De Michigan, which, in 1975, was one of the first organizations in the Midwest to hold a Latina conference.
Oral Presentation Session #1: 9:00-10:15AM Room 330

Mozdzierz, Kelsey
MA, Clinical Mental Health Counseling (CMHC)
Leadership & Counseling
Dr. Devika Dibya Choudhuri
Understanding Help-Seeking Behavior in Higher Education Athletics
Although student athletes have a unique set of stressors that may put them at higher risk for psychological distress, they have been found to underutilize mental health services. Student athletes have a less positive attitude toward help-seeking, with mental illness stigma a significant contributor to the underutilization of services. Many universities provide psychological and counseling services on campus, but staff are not well trained in the area of athletics and exercise. The results of this study may help change the perception of mental health services by understanding the barriers student athletes may face and by examining how athletics staff provide support for student athletes facing issues they cannot work through on their own. The results of this study may also provide information regarding the ways college athletics and student participation relates to help-seeking.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Muterspaugh, Robert
MS, Chemistry (CHM)
Chemistry
Dr. Hedeel Evans
Regulation of Extracellular IGFBP-3 by Humanin in A549 Cells
The insulin-like growth factor binding protein 3 (IGFBP3) is a multifunctional protein that belongs to a family of IGF binding proteins with highly conserved structures. An inverse relationship has been demonstrated between serum or plasma levels of the protein and lung cancer risk. The protein was found to inhibit the growth and survival of non-small cell lung cancer (NSCLC) A549 cells, and its overexpression potently induced apoptosis in these cells. Humanin is a small mitochondrial-derived peptide known to bind with high affinity to residues 242-259 of IGFBP-3. Growing evidence suggests that, when secreted, humanin is a potent cytoprotective peptide against a range of disease models and cellular stress. The role that humanin plays in tumorigenesis and metastasis is not clear in A549 cells. While both IGFBP-3 and humanin are known to exert their function both intracellularly and extracellularly, little is known about their extracellular interaction and regulation of A549 cell survival. Our hypothesis is that humanin acts as an IGFBP-3 sponge in the extracellular compartment and thereby regulates cell growth and survival in a time and concentration dependent manner. Using peptide synthesis, ELISA, immunoprecipitation, Western blotting, and tissue culture, we examine the physical and functional interaction of extracellular IGFBP3 and humanin both in vitro and in vivo in A549 cells.
Oral Presentation Session #2: 10:30-11:45AM Room 300

Nelson, Emily
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Dr. Frank Fedel
Characteristics of the Amputee Golfer
Golf has become a popular leisure and competitive sport for amputees. From a social perspective, amputations may have a negative effect on an individual's psychosocial well-being and can impact the level of mobility or functionality within daily life. Studies have also shown that within the able-bodied population, participation in sports has a positive impact in these areas. Eighteen amputee golfers participated in a survey related to performance, fatigue, and comfort while golfing. The results demonstrated the tendency for individuals to modify their swing, stance, frequency of playing, and number of holes played due to their amputation. In specific cases, pain and fatigue have been contributing factors affecting amputees' play. The data suggest that among amputee golfers, comfort appears to be systemic, or experienced throughout the whole body. Appropriate fit of the prosthesis and modification of the swing/stance could improve comfort levels while golfing. Appropriate fit may lead to enhanced accessibility and psychomotor experience when golfing, which could contribute to an improvement in overall quality of life.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Ng, Hoi Yee (Cally)
MA, Educational Leadership- Higher Education/ Student Affairs (HESA)
Leadership & Counseling
Dr. David Anderson
The Importance of International Peer Advisor to Assist F-1 Students in the United States
Peer advising for international students (i.e., both the advisor and advisee are current international students) has important implications for appreciative advising. The current study reviews research results comparing peer and non-peer advising through the lens of appreciative advising, including how these peer relationships influence the six phases (Disarm, Discover, Dream, Design, Deliver, Don't Settle). Several recommendations for student support services, theories of advising, and future research will be discussed.
Oral Presentation Session #4: 2:45-4:00PM Room 300

Nucci, Paul
MA, Communication (COMM)
Communication, Media, & Theater Arts
Dr. Dennis Patrick
Step Family Communication: What We Know and What We Don't
Fifty to sixty percent of divorced Americans eventually re-marry, and as a result, stepfamilies are increasingly common. Thirty communication studies on stepfamilies were summarized and analyzed for the current study. Findings address the importance of effective communication in the formation and maintenance of step-families and the central role mothers play in navigating family challenges. Suggestions for improving step-family communication and for future research in the area will also be discussed.
Oral Presentation Session #2: 10:30-11:45AM Room 350

Odum, Jacquelyn
MA, Women's and Gender Studies (WGST)
Women's and Gender Studies
Dr. Ronald Delph
"Double, Double Toil and Trouble": James I and the Jacobean Witch Plays
Shakespeare's Macbeth was written and performed in 1606, shortly after James VI of Scotland became James I of England. Although Macbeth was the first known English play to depict late sixteenth century continental, stereotypical witches and to cast them as wholly evil and threatening, it was not the last Jacobean witch play. Ben Jonson's The Devil is an Ass and Thomas Middleton's The Witch were performed in 1616. The Witch of Edmonton, a collaboration by William Rowley, Thomas Dekker, and John Ford, was performed in 1621. These plays depicted witches as female practitioners of black magic, in contrast to earlier literary representations of benign or mischievous practitioners of white magic. They differed also from Christopher Marlowe's The Tragical History of the Life and Death of Doctor Faustus, performed in the late 1580s, an Elizabethan morality play which featured a pact with the Devil, but no witches. The witch plays appeared because James I, avid supporter and architect of the Scottish witch hunts and author of Daemonologie, became King of England in 1603. Because the patronage of the new King and his court was vitally important to dramatists, they sought to flatter and entertain their monarch.
Oral Presentation Session #3: 1:15-2:30PM Room 301

Oehler, Charlotte
MA, Creative Writing (CW)
English Language & Literature
Dr. Matt Kirkpatrick
Fall Risk - An Interactive Nonfiction
Fall Risk is an interactive, nonfiction chronicle of the author's relapse of Hodgkin's lymphoma in 2010, subsequent treatment, and side effects that resulted in a thirteen-month hospitalization. The project in full emphasizes relationships, identity, religion, and other topics – not the medical system or health in general – and how they are affected when a young adult is diagnosed with cancer – again. Formally, the project contains segments of medical jargon appropriated from official medical records, journal entries, and blog posts, as well as narrative sections pulling the story forward, all of which have been uploaded to the interactive storytelling platform Twine. Twine allows for a storytelling/reading experience unavailable through conventional forms, allowing readers immerse themselves in the writing and the plot – or lack thereof. As the reader chooses activities, they become invested in the story. The story is no longer simply something they are taking in but something they are experiencing. Sometimes, choices seem monumental (e.g., opting for insertion of a gastrointestinal tube despite the warnings) and others mundane (e.g., watching television or putting together a puzzle). Through reader's choices, timing of text, and other techniques, time naturally slows and quickens. At times, the story refuses to move forward, mirroring the experience represented.
Arts Front Session #3: 1:15-2:30PM Auditorium

Pallye, Roopkatha
PhD, Technology (PHD-TC)
Engineering Technology
Dr. Subhas Ghosh
Super-Hydrophobic and Stain Repellent Pet Fabric
As supported by existing literature and research studies, super-hydrophobicity can be attained by combining very low surface energy of the surface and the presence of micro-bumps adding to the roughness of the substrate. The current study attempts to replicate micro-bumps on a 100% polyester fabric (PET fabric). When water comes into contact with the rugged surface, it naturally maintains is spherical shape. Any foreign matter or dirt present on the surface then adheres more positively to the water than the textile surface ensuring that the dirt is carried away with the water. The movement enabled in the structure further aids this process, allowing little or no residue to be left behind, imparting self-cleaning characteristic to the fabric substrate. The fabric will also be treated with low surface energy chemical to reduce its surface tension and be stain repellent. To ensure the durability of the finish, the polyester fabric will first be subjected to desertification by alkaline hydrolysis process for availability of free functional sites (OH-, COO-groups).These free functional sites will adhere to the super-hydrophobic and stain repellent finish by covalent bonds, which causes the super-hydrophobic and stain repellent finish to be extremely durable to washing and abrasion. The finish product will be easy and cost-effective to be adopt on an industrial scale.
Oral Presentation Session #4: 2:45-4:00PM Room 330

Pandrapragada, Nihal
MS, Polymers and Coatings Technology (PLT)
Engineering Technology
Dr. Vijay K Mannari
Water-borne Alkyd Resins: An Approach for Addressing a Chronic Technical Challenge
The paint and coating industry has transitioned from solvent-based coatings to water-based coatings in response to environmental concerns and regulatory pressure. Although alkyd resin based paints are highly used products, there has been much less progress in their transition to water borne coatings. This is primarily due to a technical challenge – alkyd resins, being essentially polyeters, are not hydrolytically stable. In order to respond to thischallenge, we have designed a modified alkyd resin by grafting the conventional alkyd resin with acrylate monomers. We hypothesize that this modification will not only shield ester linkages via a steric effect, but would also provide good mechanical properties to the dried coatings. In the current study, unlike in the conventional method, acrylation of alkyd is carried out within the dispersed alkyd droplet, thereby increasing the grafting efficiency and potentially their hydrolytic stability. First a stable oil-in-water type emulsion is prepared by conventional method using external emulsifiers. In this emulsion, the oil phase is comprised of a mixture of alkyd resin, acrylate monomers, and a photo-initiator, varying in types and amounts. This stable emulsion is then heated under slow stirring to initiate free-radical polymerization of acylic monomers with emulsion droplets. These dispersions of acrylated alkyds are evaluated for storage stability, hydrolytic stability, and film properties of their air-dried films.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Patty, Alexandra; Hoffman, Judith
MA, Teaching English to Speakers of Other Languages / TESOL
World Languages
Dr. Wendy Wang
Effective Use of Multicultural Literature in Teaching Reading to English Language Learners
Multicultural children's literature is a valuable medium for teaching reading, especially to English language learners (ELLs). In addition to containing simple language, vivid illustrations, and culturally relevant themes, multicultural children's literature enables ELLs to affirm their identities and cultural experiences through the books they read and connect to the stories on a personal level (Bieger, 1996; Cummins et al., 2015). Research has shown that ELLs who are able to relate personally to their reading material in school are more likely to become interested in reading and engaged in the learning process. Unfortunately, the benefits of multicultural literature are still overlooked in most schools in the U.S. This may be due to teachers wanting to avoid the risk of stereotyping, to insufficient funding, or to a lack of time to find culturally appropriate resources. The current study reviews research showing the benefits of teaching English as a second language and reading through multicultural children's literature. Using sample reading lesson plans and spin-off activities, the current study explores effective ways of using multicultural children's literature in teaching reading to ELLs. Handouts with annotated resources, sample lessons, and activities are provided.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Pauling, Sarah
MA, Social Foundations of Education (SFND)
Teacher Education
Dr. Paul (Joe) Ramsey
The Development of Language and Area Studies Instruction As American National Security Strategy, 1940-1975
The modern concepts of both the Intensive Language Program and the Area Studies Program were borne in World War II as the Army Specialized Training Program, an attempt to turn select soldiers into leading specialists on areas of the world critical to US interests. The Army Specialized Training Program was constructed from a utilitarian perspective, with the understanding that the current structure of U.S. higher education would not be conducive to the military's explicit aim of using these concentrated studies to further intelligence efforts in wartime. The legacy of this approach can be seen in later Intensive Language Training and Area Studies programs in American universities. Sovietology and related fields in Far East studies began to gain traction directly after World War II, and university Area Studies programs work in tandem with federal language scholarships to fund student research abroad to this day. The current study qualitatively analyzes primary documents. Both documents from the specific years discussed retrospectives from the education field that examine the effects of these policies from a few years' distance are examined. In addition, secondary historical sources to provide an overview of educational and sociological trends are also analyzed.
Oral Presentation Session #1: 9:00-10:15AM Room 301

Pellerin, James
MA, Criminology and Criminal Justice (CRM)
Sociology, Anthropology, & Criminology
Dr. Grigoris Argeros
A Review of Early Intervention Systems
When predatory officers go unchecked, the public becomes distrustful of the police, forming a chasm that prevents cohesiveness between law enforcement and its citizens. The belief if an intervention can be implemented early enough in their career, a law enforcement officer will be more productive and have fewer negative metrics associated with their service record. The invention and implementation of the Early Intervention System (EIS) has caused numerous law enforcement agencies to rethink the internal structures of administrative policy. This literature review serves as the method for understanding the purpose and effectiveness of EIS. The United States Commission on Civil Rights was among the first to develop this accountability system in 1981, and now EIS has been implemented in numerous departments throughout the country. Development of EIS components such as identification, intervention, and follow-up, in addition to the implementation of this system, differs depending on the needs of each police department. Ultimately, this system is meant to impact departments by correcting the problematic behavior of certain officers, as well as promoting transparency that serves to encourage restoration between police, administration, and the public they serve.
Oral Presentation Session #3: 1:15-2:30PM Room 300

Peterson, Douglas
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Dr. Frank Fedel
Comparison of Amputee Golfers Adopting Either Conventional or Modified Golf Stances, With or Without Expert Assistance
Golf is an extremely popular sport, as illustrated by the 55 million worldwide participants (Kenny, 2015). The passion for golf extends beyond the able bodied and is one of the most popular sports for upper- and lower-limb amputees. The conventional golf swing requires three-dimensional movement at the ankle joint complex, the hips, and the shoulders. These motions have been shown to be detrimental to the musculoskeletal system of able-bodied golfers (Cole, 2016). In addition, many prostheses are not designed for these complex motions (Rogers, 2004). Our study sought to examine the effects that amputations have on golfers. This was assessed using a survey given to amputee golfers at multiple Michigan Amputee Golf Association (MAGA) outings. A focus was placed upon the presence or absence of modification of golf stance with and without expert assistance, and the effects on the golfer's perceptions of pain, accuracy, and power while golfing. The data suggest a tendency for golfers to modify their stance post-amputation. Those who modified their stance were less likely to experience pain. Interestingly, those who sought expert assistance were more likely to experience pain, but less likely to note a significant decrease in accuracy and power.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Pitzen, M.S., Jerrica; Franz, M.S., Shannon; Riggs, M.S., Jessica; Huth-Bocks, Ph.D., Alissa
PhD, Clinical Psychology (PSYD)
Psychology
Dr. Alissa Huth-Bocks
Stability of Parental Reflective Functioning and Associations with Parenting and Toddler Attachment Security at 2-Years Postpartum
The present study examined the stability of parental reflective functioning (RF), or parents' capacity to have accurate perceptions of their child's mental states, assessed prenatally and 2-years postpartum, and examined whether RF at these time periods predicted observed parenting, attachment security, and toddlers' social-emotional competence. Participants came from a larger, longitudinal study on parenting beginning during the third trimester of pregnancy and ending at 3-years postpartum. Parental RF was assessed during pregnancy and 2-years postpartum. Positive and negative parenting composites were derived from coded parent-child free play interactions at 2-years postpartum. Toddlers' attachment security and social-emotional competence were also measured at 2-years. Results for those with coded RF at both time periods showed a significant, positive correlation between prenatal and postnatal parental RF (r=.41).
Oral Presentation Session #1: 9:00-10:15AM Room 320

Pulido, Valentin
MS, Historic Preservation (HPRS)
Geography & Geology
Dr. Theodore Ligibel
Railroad Lines and Historic Clusters
The presentation is about a case study that analyzed the feasibility of establishing a historic corridor along US-2 from Escanaba west to Iron Mountain. This particular section of US-2 runs along what was the Chicago and North Western Railroad, which provided transportation for passenger, mineral extraction and lumber. The primary objective of the study is to establish that utilizing railroad lines is a reliable method to identifying clusters of underserved historic resources in the Upper Peninsula. The secondary objective is to consider tools that may be effective in promoting heritage conservation based on the study's findings.
Oral Presentation Session #3: 1:15-2:30PM Room 302

Pusod, Errile Joy M.
MS, Molecular/Cellular Biology (MCBI)
Biology
Dr. Aaron Liepman
Biochemical Characterization of GDP-mannose Pyrophosphorylase and its Role in GDP-glucose Biosynthesis in Plants
GDP-mannose and GDP-glucose are nucleotide sugars required for the formation of glucomannan, a polysaccharide widely used as a food stabilizer, nutritional supplement, gelling agent, and thickener. This polysaccharide is present in cell walls of many plants where it contributes to cell wall structure and integrity. Some plants also use glucomannan as an energy storage molecule. In Arabidopsis thaliana, GDP-mannose is synthesized by the VITAMIN C DEFECTIVE 1 (VTC1) enzyme, a GDP-mannose pyrophosphorylase (GMPPase), using mannose-1-phosphate

and GTP as its substrates. However, in plants, the biosynthesis of GDP-glucose is not fully understood, and the gene encoding the corresponding enzyme has not been identified. Studies of partially purified GDP-glucose pyrophosphorylase (GGPPase) from pea seedlings reveal that this enzyme is specific for GTP and glucose. In contrast, GDP-mannose pyrophosphorylases from some bacteria and from some mammalian tissues possess GMPPase and GGPPase activities. Because of this, we hypothesize that VTC1 from A. thaliana also functions as a GGPPase. To test this hypothesis, we have expressed recombinant Arabidopsis VTC1 in E. coli and subjected this protein to radiometric GDP-glucose and GDP-mannose pyrophosphorylase assays and HPLC analysis. These analyses provide evidence that the Arabidopsis VTC1 enzyme has the ability to produce both GDP-glucose and GDP-mannose.
Oral Presentation Session #4: 2:45-4:00PM Room 302

Rajab, Majed
PhD, Technology (PHD-TC)
Information Security & Applied Computing
Dr. Ali Eydgahi
Compliance with Information Security Policies in Higher Education
The current project tests a theoretically developed model based on a comprehensive literature review on the predictors of compliance with information security policies in higher education. Using a sample of employees from Eastern Michigan University, findings suggest that staff vulnerabilities and response capabilities towards information security determine their compliance. These results demonstrate that deterrence is an ineffective method to foster compliance among EMU's employees. Results indicate a need for the development of workshops educating EMU's staff on the threats, risks, and insecurities associated with information systems. Additionally, more resources should be geared toward education and training of staff regarding information security breaches.
Oral Presentation Session #3: 1:15-2:30PM Room 300

Rakes, Sara
MA, Sociology - Applied Research Specialty (SOC)
Sociology, Anthropology, & Criminology
Dr. Kristine Ajrouch
Accessing New Media Across the Life Course: A Focus on Tunisia
Information is a basic need in the complex world in which we live. It fundamentally shapes attitudes and behaviors ranging from the mundane to the political. Adaptation to new media may not occur at the same rates within a society, however. The ways in which new media are accessed hold special significance in countries undergoing political change. The technology that drives new media is a large part of culture and simultaneously affects both society as a whole and individuals in their daily lives. A case in point is Tunisia, which continues to face potential instability in the aftermath of the "Arab Spring." In this paper, we use a life course perspective to illuminate age as a key factor to investigating and understanding patterns of information use. Using data from the 2013 Values Survey in Tunisia, we hypothesize that younger age is associated with higher levels of new media use. We then explore whether age differences vary by gender and education level. Regression analyses show that younger age is associated with higher use of social media and internet. This age difference varies by gender and education level. These findings illuminate the ways in which stratifying forces intersect with age to influence behaviors.
Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Raoufi, Gelareh
MS, Apparel Textiles and Merchandising (ATM)
Visual & Built Environments
Dr. Subhas Ghosh
A Review of Invisible Fabric & Technology Status
An invisible fabric is a type of intelligent camouflage that helps soldiers hide their bodies from enemies. This fabric interrupts the flow of information from the eyes to the brain through the optic nerves. It helps soldiers appear like ghosts without being recognized. One of the most important impediments to invisible fabrics is that the edge of the fabric is always visible. When a soldier covers their body with this fabric, the fabric edge is easy to recognize. The purpose of the current study is to investigate the crucial information that can help the army to fully utilize invisible fabric. Because of the classified nature of this research topic, adequate information regarding this subject is not available. The author read more than 30 different articles to develop the concept of an invisible fabric. The current project describes the study methology that the author proposes to develop as well as a practical method for the creation of an invisible fabric. The current study, which enhances the knowledge in this area of smart fabric, may encourage more research to develop an invisible fabric.
Oral Presentation Session #4: 2:45-4:00PM Room 330

Raymond, Martin; Baumer, Caitlin
MS, Psychology (General Experimental) (PSY)
Psychology
Dr. Joseph Breza
Optogenetic Activation of Type-1 cells in Fungiform Papillae Preferentially Activates NaCl-best Neurons and Drives Consumption of "Blue" Water in Na+-deprived Mice
Na+ appetite is a powerful behavioral phenomenon, where Na+ depleted animals voraciously consume high concentrations of Na+ salts. It is generally thought that the taste of Na+, which is essential for driving Na+ appetite, is mediated through NaCl-best neurons, which utilize Epithelial Sodium Channels (ENaCs) for transduction. While a consistent pattern of taste research indicates the existence of ENaC-mediated NaCl-best neurons, the specific taste-bud cell playing this role has yet to be conclusively identified. Recent optogenetic data from our laboratory shows that GAD65 positive Type 1 taste-bud cells may communicate with NaCl-best neurons, transducing an ENaC-mediated Na+ response to NaCl-best neurons in the rostral nucleus tractus solitarius. NaCl-best neurons responded faithfully and robustly to 1 ms light pulses over a range of intensities (0.03—2 mW) and frequencies (1—10 Hz) with short latencies (21 ms), whereas NH4Cl-best and Sucrose-best neurons, responded to light pulses with longer latencies (31 ms) and with markedly less spikes. In fact, spike rates to 2 mW at 10 Hz in NaCl-best neurons were similar to their responses to 0.1 M NaCl, whereas spike rates to light in Sucrose-best and NH4Cl-best neurons were 66 % and 50 % less than those to 0.2 M sucrose and 0.1 M NH4Cl, respectively. To further explore this hypothesis, we used two-bottle preference tests to examine the behavioral impact of optogenetic stimulation of GAD65

positive Type-1 cells of Na+-deprived mice and Na+-replete mice. Preliminary findings indicate that preference for "blue" water (470 nm) increases dramatically under Na+-deplete conditions, suggesting that Type-1 cells play a substantial role in the detection of Na+ salts. To our knowledge, this is the first behavioral evidence to support the role of Type-1 cells in Na+ appetite.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Redigan, Hannah
MA, Clinical Mental Health Counseling (CMHC)
Leadership & Counseling
Dr. Devika Choudhuri

Disordered Eating and Negative Body Image among Sorority Women

This poster will showcase studies and research regarding negative body image and eating disorders in sorority women. The studies examined discuss whether or not eating disorders and a negative body image are more commonly found in sorority women than other college women and why this may or may not be so. The unique risks sorority women face as members of competitive, often appearance-focused and alcohol-fueled social systems will also be discussed as factors in determining disordered eating habits. A few interventions such as peer-led intervention programs and cognitive dissonance prevention programs and their effectiveness are also discussed.

Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Reed, Eric
PhD, Educational Leadership
Leadership & Counseling
Dr. Carmen McCallum

First-Year Academic Performance: A Study of Students from Urban School Districts at One Midwestern University

Students, and particularly the most vulnerable student populations, are more likely to persist at institutions that provide academic, social and personal support. Thus, first-year programs are identified as an effective practice for student retention. Students from urban school districts face a unique degree of challenges that are linked to the school districts they matriculate through as well as the urban environment. Additionally, students from urban school districts at the university studied in this research graduate at much lower rates than the university average. Currently, the university in this study has two first-year programs dedicated to improving academic performance and retention of first-year students. The researcher will use a quantitative research method with secondary data to assess the effectiveness of the two first-year programs for students from urban school districts. This quantitative study will include an analysis of existing academic performance data (i.e. Grade Point Average) of first-year students from urban schools districts to determine the effectiveness of retention practices such as: success coaches, study hours, peer mentors, and other support services.

Oral Presentation Session #4: 2:45-4:00PM Room 301

Riehl, Sarah; Gonczar, Jovan
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Dr. Frank Fedel

The Use of Biomemetric Trainers to Aid in Teaching Upper Extremity Palpation

Palpation is critical to the diagnosing and treatment plan development. However, there is no set standard for methods of palpation established and they even differ between health fields. If one method of teaching is more effective, health care professionals can provide a better quality of care and set higher standards for practice in orthotics and prosthetics. An anatomical model of the shoulder girdle and humerus with sensory feedback was fabricated by the following methods. The humerus and the bones which make up the shoulder girdle were 3D printed with polylactic acid filament. Using an MRI scan of the shoulder, muscles were replicated using modeling clay and silicone foam. Pressure sensors were placed on anatomical landmarks and programmed with Arduino. The internal components were covered with a flesh colored silicone skin. The biomimetric trainer was found to be an effective educational tool in teaching palpation. The aid of a functional anatomical model allows students to utilize psychomotor skills that will be transferred into the patient exam room. Mastering these skills allows for the practitioner to focus on other critical aspects of patient care.

Poster Presentation Session A: 9:00-10:15AM Room 310A/B

Ringuette, Joshua
MA, History (HST)
History & Philosophy
Dr. Ronald Delph

Jean Bodin and his Demon-Mania: Witchcraft in Early Modern French Academic Thought

In 1580, the Kingdom of France was in the midst of a brutal series of religious wars, and the disorder threatened the stability of the French state. During this period, Jean Bodin emerged as France's most prominent legal scholar. He wrote numerous tracts on a variety of subjects, from historiographical method to the French political system. However, in 1580, Bodin published a work titled "On the Demon-Mania of Witches," a treatise regarding the existence, characteristics, and prosecution of witches. Many of today's legal historians consider Bodin's Demon-Mania to be something of an outlier from the rest of his work, an unfortunate artifact of the times in which he lived. Why did he write on such a seemingly strange topic? Once the historical context and text itself of the book are analyzed, it makes perfect sense that Bodin would be concerned with witchcraft. Bodin wrote his Demon-Mania because he wanted to move French law away from its medieval Byzantine traditions, he wished to counter other scholars who were skeptical about the dangers or existence of witchcraft, and he saw witches as a danger to the social order provided by the Valois monarchy.

Oral Presentation Session #1: 9:00-10:15AM Room 350

Rinke, Andrew
MS, Molecular/Cellular Biology (MCBI)
Biology
Dr. Thomas Mast

Histological Changes During Temporary Anosmia

Chemosensory epithelia degenerate and regenerate throughout life. Damage to the olfactory epithelium (OE) induces anosmia (smell loss) and is associated with clinical depression. Intranasal irrigation with detergent solution damages OE cilia. However, this has not been shown in rodents. Therefore, we hypothesized that intranasal detergent solutions would temporarily damage mouse olfactory cilia, and thus produce a clinical model for anosmia. Mouse OE structure and function was investigated 24- and 48-hours following intranasal irrigation with a detergent solution. The OE was imaged using light microscopy and scanning electron microscopy (SEM). Intranasal irrigation with TritonTM did not appear to damage cilia at either 24- or 48-hours post irrigation. However, in SEM images, matted cilia and an overall reduced thickness of the mucus layer was evident. OE mucus was then detected using periodic-acid Schiff (PAS) stain and imaged with light microscopy. PAS staining appeared reduced at 24-hours, but not 48-hours post irrigation. In a separate group of mice, OE function was investigated with an olfactory-dependent food-finding assay. Compared to PBS-treated mice, detergent-treated mice had decreased food-finding ability 24-hours post irrigation that recovered at 48 hours. Thus, intranasal TritonTM induces temporary anosmia with minor histological changes to the epithelium.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Ritchey, Jeremy
MS, Chemistry (CHM)
Chemistry
Dr. Jeffrey Guthrie

Selection of an Aptamer Against Quantum Dot-Labeled Glyphosate using CE-SELEX

Aptamers are short single stranded oligonucleotides. Due to their high target-binding affinity, low cost, and in vitro development, aptamers are a growing area of research interest for detection of molecules and proteins. Systematic Evolution of Ligands by EXponential enrichment (SELEX), is a method of in vitro selection we have utilized to select for a sequence of ssDNA that binds to glyphosate, a ubiquitous herbicide. Capillary electrophoresis (CE), which relies on a change in size-to-charge ratio of bound ssDNA to separate bound and unbound sequences, is regarded as the most efficient technique for the partitioning phase of SELEX. Due to the relative small size of glyphosate, the change in size-to-charge ratio between bound and unbound ssDNA sequences is too small to be effectively separated by conventional CE. To overcome this, we have attached glyphosate to a quantum dot (QD), which, relative to glyphosate, is a large nanoparticle. The glyphosate-QD complex facilitates a much larger change in the size-to-charge ratio of bound ssDNA, allowing for effective partitioning via CE. We have isolated sequences of ssDNA and will be presenting our preliminary data.

Oral Presentation Session #1: 9:00-10:15AM Room 352

Rodriguez, Diana
MS, Polymers and Coatings Technology (PLT)
Engineering Technology
Dr. Vijay Mannari

Development of Acrylic-Grafted Hybrid Polyurethane Dispersions

Polyurethane Dispersions (PUDs) are known to offer high performance, especially in terms of their combination of toughness, abrasion resistance, mechanical flexibility and chemical resistance. However, their use has not been expanded to some applications due to high cost in comparison with other water-borne systems like acrylic latex, which offer good performance at a considerably less cost. Several routes have been reported to meet the cost requirements: First, blending of Acrylic Latex (AC) and Polyurethane in a coating package, which usually results in films of lower quality, caused by low compatibility between the two components. The second route is the formation of hybrid systems containing chemically bonded mixtures of both polymers, which can lead to a better interaction and compatibility between components. This study contemplates the synthesis of Polyurethane/acrylic (PUA) hybrid dispersions using two different grafting techniques. A conventional terminated NCO pre-polymer was reacted with 50% stoichiometric amount of HEA (based on the NCO content) to obtain an NCO-acrylic terminated pre-polymer. This pre-polymer then was used for the synthesis of acrylic/Polyurethane hybrid dispersions by two methods (a) Emulsion polymerization: The pre-polymer was neutralized, dispersed in water and chain extended with diethyl amine (DEA), followed by using the resulting dispersion as a seed for conventional emulsion polymerization, with acrylic monomers. (b) Monomer mixing process: pre-polymer was mixed with acrylic monomers, and then was neutralized and dispersed in water, followed by chain extension with DEA. Then, Initiator was added and the temperature was raised to the initiation temperature and reacted until consumption of acrylic monomers. The grafting efficiency was evaluated via acrylic monomer depletion using Fourier transform infrared (FTIR), in addition to a comparison of mechanical and chemical properties of the films. Samples also were evaluated for their emulsion stability (through both particle size analysis and visual observation). Finally, the results were compared with the physical blend of both polymers: PUD and AC using the same PUD/acrylic mixing ratio.

Oral Presentation Session #1: 9:00-10:15AM Room 352

Rogers, Jenny
MFA, Applied Drama & Theatre for the Young (ADTY)
Communication, Media, & Theater Arts
Dr. Darlene Leifson

Dexter Winter Camp: 'Make It, Be It, Say It' Integrated Arts Project

Barriers to learning include issues related to self-esteem and lack of community in the classroom. The purpose of this study, conducted as a class project in CTAR 677, Research Techniques, was to determine the efficacy of an arts-based approach to breaking down these barriers in order to improve academic and social performance in twenty-five participating sixth-graders from Creekside Elementary in Dexter, MI who attended a four-day enrichment camp at Eastern Michigan University. Using a mixed-method approach, data collection involved a

pre- and post-test Likert Scale survey, daily journaling, group, partner, and independent activities requiring collaboration and reflection as well as a final presentation. The scope of this project, though small, revealed that when exposed to purposeful, dynamic, hands-on, creative and dramatic process activities, students not only became more self-aware, but connection to the classroom community increased. Further studies are needed to assess the value of creative and dramatic activities in mitigating additional barriers to learning and enhancing over-all character development.

Oral Presentation Session #3: 1:15-2:30PM Room 301

Rutledge, Sam
MS, Apparel Textiles and Merchandising (ATM)
Visual & Built Environments
Dr. Holly Mosher

Mock Shop Store Layout

For this project I will be producing a retail store layout using the computer program Mock Shop. The program Mock Shop is widely used throughout the retail industry to make digital representations of potential floor-plans for retail spaces. I will be learning to use Mock Shop as well as researching more about its competition.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Senda, Hannah
MA, Communication (COMM)
Communication, Media, & Theater Arts
Dr. Keon Pettiway

Cultivation Theory: An Analysis and Redefining

Cultivation theory acknowledges that there can be a relationship between a person and the amount of television that one may consume in a day. This presentation will be a detailed analysis into this communication classic. There will be a description and oral history of where the theory started from, including the originator as well as important aspects of the theory, and then a brief look into how it's been used in previous research. To follow, there will be a focus on how Cultivation theory can change to be more current, specifically a focus on mobility, and then how we can redefine important terms and aspects to fit the modern look. Furthermore, what the future can hold for the theory when looking at how we watch shows and how binge watching influences Cultivation theory itself.

Oral Presentation Session #2: 10:30-11:45AM Room 350

Seo, Adrienne
MA, Teaching English to Speakers of Other Languages / TESOL
World Languages
Dr. Wendy Wang

Teaching English in South Korea: From "Authentic" Input Providers to Effective Teachers

This study analyzes the instructional effectiveness of native English-speaking teachers (NETs) in South Korea by comparing it to the views that Korean teachers of English and students have about the qualities of effective teachers of English (Park & Lee, 2006). In South Korea, NETs are typically introduced into the classroom to provide "authentic" English input; however, this does not mean that they are perceived as "authentic" teachers as many of them have reported "authority" issues in the classroom (Carless, 2006; Jeon, 2009). Research has shown that a better understanding of the cultural influences that affect English education in South Korea, such as teacher-student roles stemming from Confucianism (Han, 2005) and the competitive nature surrounding the national college entrance exam (Carless, 2006) will help NETs develop lesson plans and classroom management styles to meet the needs of their students. Grounded in research on the dichotomy of NETs and non-native English-speaking teachers (NNETs), this presentation explores Korean educational culture and student expectations, a better understanding of which will help NETs move beyond being "authentic" input providers to become effective English teachers.

Oral Presentation Session #1: 9:00-10:15AM Room 302

Shah, Vidhi
MS, Polymers and Coatings Technology (PLT)
Engineering Technology
Dr. Vijay Mannari

Investigation of Polyurethane Coating Systems Cured Using Photo-Base Generators

The idea of improving upon the existing properties of paints and coatings leads to the development of new chemistries each year. While some inventions focus on the synthesis of new products, others focus on bringing the existing chemistries together to formulate coatings with superior chemical and mechanical properties. One such promising possibility lies in the development of an Organic-Inorganic hybrid (OIH) coating system by leveraging the dual-cure chemistry involving Polyurethane (PU) formation using isocyanate and hydroxyl moieties as well as UV-initiated moisture curing of silane functional groups. The focus of this research is to combine the network structure formed by urethane linkages as well as the one formed by curing of silane groups to form siloxane. A photo base generator (PBG) has been used that generates, in situ, an amidine-based strong base that is capable of instantly kicking off PU reaction resulting in rapid curing. The strong base has also been investigated to catalyze moisture curing reaction of the silane functional groups also present in the system. Investigations have been done to determine the efficiency to which the PU as well as sol-gel reactions go to completion in presence of the PBG, both independently as well as concomitantly. Studies are also underway to determine the impact such systems have on the chemical and mechanical properties of the film formed. The studies done so far reveal some great insights with a scope for commercial exploitation in future.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Shaheen, Qadri
MS, Construction Management (CM)
Visual & Built Environments
Dr. Suleiman Ashur

A Review of Highway Work Zone Crashes in Michigan

This synthesis provides a detailed review of existing causes leading to crashes in construction zones on Michigan highways. The paper begins with an analysis of current studies, their methodologies and data collection protocols. Then, it supplies readers with critical feedback on the limitations, weaknesses and strengths of contemporary scholarship on work zone crashes on highways. The paper concludes with a comprehensive framework on the study of the correlates on work zone crashes for future researchers. It recommends a step-by-step guide for

stakeholders on conducting responsible, rigorous and utile research on work zones crashes.
Oral Presentation Session #3: 1:15-2:30PM Room 302

Shetterly, Jaclyn
MA, Communication (COMM)
Communication, Media, & Theater Arts
Dr. Dennis O'Grady
Resident Advisers' Perceptions of their Reporting Status Under Title IX: How They Can Help Survivors
Sexual assault on college campuses is extremely prevalent, and because of the deleterious effects it has on survivors, schools across the country are looking at ways to reduce its frequency and offer support to survivors. One way the United States' Office for Civil Rights has helped is through Title IX of the Education Amendments of 1972 (Title IX). Title IX is the legislation that protects students from discrimination—which includes sexual violence. Under the current form of Title IX, all university employees, including student employees, are required to report instances of sexual assault as they learn about them from students or other employees. For Resident Advisers (RAs), the requirement to report can put them in a complicated situation. This is because RAs often act in two roles to the residents they serve: policy enforcer and friend. Because of this complicated relationship, this research uses quantitative data to examine RAs' perceptions of their mandatory reporter status under Title IX.
Oral Presentation Session #3: 1:15-2:30PM Room 300

Shukla, Swapnil
MS, Polymers and Coatings Technology (PLT)
Engineering Technology
Dr. Vijaykumar Mannari
Novel Organic-Inorganic Sol-Gel Coatings: Green Alternative to Chromate Pretreatment
In a protective coating system, pre-treatments which are directly applied on the metal substrate prior to primer play a key role in protection of the substrate in corrosive environments as well as providing adhesion to the subsequently applied layers. Hexavalent chromium based conversion coatings have long been considered as the undisputable pre-treatment due to excellent anti-corrosion properties. However, extensive efforts have been in progress in recent years to establish suitable replacements for conventional chromate based pretreatments, mainly driven by their serious health risk to users, negative environmental impacts and strong regulations against its usage. Among various options, Organic-Inorganic Hybrid (OIH) pretreatments based on sol-gel chemistry offer environmental advantages as well as strong interactions with both the substrate and the topcoat which can lead to desirable corrosion protection and inter-layer adhesion. In this study, series of novel OIH precursors based on the reaction of aliphatic and aromatic epoxies with amino silanes and thio silanes have been synthesized and applied on aluminum 2024 substrates. The chemical structure of sol-gel prec ursors and the deposited OIH films were characterized by FTIR analysis and the corrosion resistance performance was assessed by quantitative techniques such as Electrochemical Impedance Spectroscopy (EIS), D.C. Polarization along with Accelerated Salt Spray Corrosion Test (ASTM B117). A modified technique of Oxirane Oxygen Content measurement derived from ASTM 1652 standard was also used to quantify the exact conversion of precursor reactants. Our studies indicate that higher total SiOR functionalities in the resulting precursor lead to lower stability of precursor. With the study currently in progress, the applied coatings have shown promising corrosion resistance performance. For instance, samples coated by a precursor made from di-functional aliphatic and aromatic epoxies and (3-Aminopropyl) triethoxysilane (APTES) had lower corrosion current density by at least one order of magnitude as well as multiple times higher corrosion resistance compared to untreated metal obtained from electrochemical techniques. Additionally, selected coating compositions based on current results are being optimized for a balance between functionality of precursors and stability of solutions to obtain uniform and highly protective coatings with a performance comparable to the existing chromium pretreatments.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Smith, Shannon
PhD, Educational Leadership
Teacher Education
Dr. Ronald Williamson
Online Teacher Perceptions of Self-Efficacy Following a Professional Development Experience
Online learning has grown 30% in the last decade (Dawley, Rice, & Hinck, 2010), and more teachers have transitioned to this environment to educate students. By 2014–2015, the number of K-12 students enrolled in online courses, according to the Evergreen Education Group (2015), was 2,254,000, equating to 3,800,000 semester-equivalent online courses taken by students. Online instruction is different than traditional face-to-face instruction. Teaching strategies differ in space, time, and physical proximity (Arah, 2012). Online teachers are often limited in their knowledge of best practices online (Dawley et al., 2010) and seek support and resources to acquire this type of information (De Gagne & Walters, 2009). This correlational study examined the impact of a guided professional development (PD) experience on the perceived efficacy of online teachers. Pre- and post-surveys completed by full-time and part-time instructors at a single specific online service provider showed no significant impact on a teacher's reported self-efficacy following a research-based professional development experience nor any correlation between the length of experience a teacher has in either face-to-face or online environments and their level of self-reported self-efficacy. However, the findings offered opportunities for further research including the consideration of training in online learning included in teacher preparation programs and expanding our understanding of professional development in the online environment.
Oral Presentation Session #1: 9:00-10:15AM Room 302

Snounu, Yasmin
PhD, Educational Studies (EDST)
Teacher Education
Dr. Joe Bishop
Disability in the Light Critical Disability Theory, Critical Discourse Analysis and Teacher Development Frameworks: Palestine and the United States of America
Palestine and the United States of America have substantially different educational systems. They also have complex political relationships, which shape their educational realities, particularly for students with disabilities in higher education. Both countries share simi-

larities and differences in how disabled students are perceived in higher education, as well as in how they support and provide accommodations for students with disabilities. In this research, social justice for students with disabilities, Israeli apartheid and occupation over Palestine, economic and social inequalities, and negative beliefs about disability are discussed in the light of Critical Disability Theory, Critical Discourse Analysis, and Teacher Development theories. The research explore the role of internalized knowledge and language used to construct perceptions of disabled people in general, and students with disabilities in higher education in particular, across international contexts in Palestine and the United States, in order to find alternatives to discrimination against people with disabilities. More work needs to be done by educational institutions through playing an active role in supporting students with disabilities and creating a more inclusive educational environment.
Oral Presentation Session #2: 10:30-11:45AM Room 330

Spadafore, Daniel Mathis
PhD, Educational Leadership
Leadership & Counseling
Dr. Rema Reynolds
Negotiating Philanthropy, Power, and Privilege: An Exploration of the Experiences of Women in Higher Education Fundraising
Women in higher education fundraising navigate the broad forces of sexism and racism in society and their profession. A profession in which they are being paid less than men in comparable roles and are under-represented in leadership roles, despite being the majority of fundraising professionals. During this presentation, we will review the literature on the experiences of women in higher education fundraising and explore initial research findings from a qualitative study utilizing the portraiture approach. Through the lens of intersectionality, the study explores the interplay of power and privilege as women navigate the landscape of higher education fundraising. This context includes their institutions, colleagues and supervisors, and interactions with fundraising prospects and donors. The results of this study will help inform strategies employed by institutional advancement leaders as they support women in fundraising. It also offers an opportunity for women in fundraising to tell their stories and capture their critique of the philanthropic status quo.
Oral Presentation Session #2: 10:30-11:45AM Room 352

Spencer, Charlotte; Van Zoeren, Sarah; Hawkins, Celeste
MSW, Social Work (M.S.W.)
Social Work
Dr. Ken Saldanha
A Graduate Student Reflects on a Local University-School-Internship Partnership: The Making Youth Matter Program
The current historical, employment and educational context in the local community of Ypsilanti disproportionately affects students in the local schools. It is not isolated from the larger processes that are widely known to fuel the school-to-prison pipeline (Simmons, 2009). But knowing and studying the phenomenon is one thing, interrupting it is another. The current presentation is a case study of "Making Youth Matter" (MYM), a university-community partnership between EMU's School of Social Work and the Ypsilanti Community Schools (YCS). The goal of MYM is to promote academic achievement and to interrupt the school-to-prison pipeline through mentorship between schools and the local university. Undergraduate social work student interns (BSWs) are paired one-on-one with middle school students, while graduate students provide support to the BSWs, the mentees, and their families. Additional supports include an after-school literacy program at the elementary school, conversations via pen pal letters with students at another elementary school, and assistance to middle school students in classrooms and the restorative justice center. The MYM initiative integrates evidence-based school and community mentoring approaches and focuses on building a supportive environment for students at school, home, and in their community.
Oral Presentation Session #2: 10:30-11:45AM Room 302

Staley, Suzie
PhD, Educational Leadership
Leadership & Counseling
Dr. Ella Burton
LGBT+ Equity, Inclusion, and Safety in K-12 Schools
When young people return from school and share their feelings of being excluded and harassed by their peers, they want to share their stories and lead the change for creating safe, inclusive climates. According to the recent Human Rights Campaign survey, LGBTQ students report being harassed at school at twice the rate of non-LGBTQ youth. These youth struggle in school and report high rates of depression, homelessness, and substance abuse. In the recent political climate, our youth are more anxious, depressed and stressed as they try to make sense of their identity and how they are accepted across the nation. This research will be focused on what is being done in k-12 schools for LGBT+ students, what young people are reporting, and what next steps are recommended for change.
Oral Presentation Session #3: 1:15-2:30PM Room 350

Steiner, Jake
MA-ED, Secondary Certification - Emotional Impairment (SMES-SEM-T)
Special Education
Dr. Phil Smith
Let's Bring Better Supports to Students with ADHD and Emotional Impairments to Michigan Public Schools
Students with ADHD and emotional impairments are among the lowest achieving groups of students in the country. They are at or near the top of the list when it comes to low graduation and high dropout rates, suspensions and expulsions, low academic achievement scores, and involvement in the criminal justice system, to name a few. A handful of empirically-proven programs have been successful in many schools around the country for improving these student outcomes, but predominantly in other states. The current lack of a cohesive and specific statewide plan for responding to the prevalent failure of these students, particularly in low-income public school districts, illustrates an unprecedented demand and opportunity to make Michigan a leader when it comes to providing more effective intervention. I will discuss what we can do to change that.
Oral Presentation Session #2: 10:30-11:45AM Room 330

Stockton, Megan
MA, Creative Writing (CW)
English Language & Literature
Dr. Abby Coykendall
"Whores in Whores' Clothing": Queering the Domestic in Toni Morrison's The Bluest Eye
This paper focuses on the representation of domestic space, female identity and identificatory practices in Toni Morrison's The Bluest Eye, arguing that through the main character, Pecola's, relationship with three sex workers, the novel provides an alternative imagination of "domestic relation" in contrast to the western nuclear family. Morrison's work depicts the domestic sphere as an institution marked and managed (yet never owned) by the feminine and one that inflicts both physical and symbolic violence on raced and gendered bodies. This paper argues that the violence experienced by the main character Pecola Breedlove and her mother is rooted in their identificatory practices with "family" and "womanhood" that fuel the normalizing of commodification and abstraction of women, and black women in particular, to perform unpaid domestic and sexual labor in the familial institution. Using José Esteban Muñoz's theory of "disidentification", I argue that The Bluest Eye offers a counter-site to the hegemonic identificatory practices with the "domestic" in the Pecola's disindentifactory practice and relationship with the "three whores": China, Poland, and Miss Marie that live above the Breedloves. Through this disidentification and queered performance of femininity and domesticity, the novel depicts a possibility of reclamation and resistance in otherwise oppressive ideology.
Oral Presentation Session #3: 1:15-2:30PM Room 350

Stoelt, Elizabeth
PhD, Educational Studies (EDST)
Teacher Education
Dr. Wendy Burke
Social Emotional Learning Collaboratory: The Process Learning of Creating a Safe Space for Collaboration, Communication, the Development of Self though the use of Social Emotional Learning Skills
The Social Emotional Learning Collaboratory, SELC, was developed at Eastern Michigan University. The development of this safe space was by individuals who have community and institutional partnerships that are dedicated to the advancement of Social Emotional Learning to benefit all. The Collaboratory is passionate about creating professional development, continued multi-disciplinary collaborative discussions, student teacher education and service learning opportunities for each learner in the community to obtain their highest learning potential. The following paper will tell the story of the development of the Social Emotional Learning Collaboratory through the voices of the contributors and founders. By utilizing qualitative research methods with both surveys and verbal interviews, we set out to discover the Collaboratory's story of origination. The study participant's core beliefs and values will be identified to outline and highlight what has been the motivation for key contributors and collaborators of the SELC to continue to bring social emotional learning initiatives to the learners in their communities. Their personal experiences will be shared of how Social Emotional Learning became important to them as well as how contributing to the community conversations has impacted them both professionally and personally. The paper will also highlight the current position of the Social Emotional Learning Collaboratory in the context of community impact and projects. Lastly, the paper will conclude with direction and agenda setting for the Collaboratory moving forward with community impact, educational opportunities and further research on the importance and positive impact of social emotional learning for everyone.
Oral Presentation Session #2: 10:30-11:45AM Room 350

Styes, Taylor
MA, History (HST)
History & Philosophy
Dr. Richard Nation
Charles Horton Cooley and the Patterns of the Social Gospel
Charles Horton Cooley was one of the most important American sociologists at the beginning of the twentieth century, influential for using his views of communication within an idealized social order. Cooley's basis for an adaptable and organized society was to communicate values, symbols, and traditions shared on an individual level to a national basis, which is expressed by his three major works, Human Nature and the Social Order, Social Organization, and Social Process. Although the primary scholarship on Cooley is focused on these concepts, historians neglect how Cooley was inspired by the Social Gospel, demonstrating the need for collective action within an ideal Christian democracy. This project strives to locate how Cooley was inspired by the Social Gospel as a framework for achieving solutions towards modern disorganization, as well as how Cooley's definition of religion within society is reflected in the patterns of the Social Gospel.
Oral Presentation Session #3: 1:15-2:30PM Room 320

Tanner, Andrea
MS, Technology Studies (MS-TC)
Information Security & Applied Computing
Dr. Denise Pilato
Morgan State University Account Management and Password Policy
The purpose of this project was to create an access management policy for Morgan State University, a historically black university located in Baltimore, Maryland. Access management is one of the most important issues within the field of higher education information technology to tackle. Without robust and proper access management, employees and faculty may not have timely access to the resources needed to complete their jobs and students will be unable to do simple tasks such as register for courses or log into the learning management system. Fifteen university policies were analyzed to determine what typical university access management polices contain. The content of these policies was broken down into 25 categories and the policy was written based on the results. The policy developed as a result will help refine business needs across Morgan's campus as well as provide written structure for how the Office of Information Technology can keep data secure.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Thayer, Casandra
Cert. (Interdisciplinary), Cultural Museum Studies (CMS)
Sociology, Anthropology, & Criminology
Dr. Liza Cerroni-Long
Indentured Servitude in Colonial America
This presentation looks at a little known, yet large group of Americans who originally came to the British North American Colonies as indentured servants between 1650 and 1775. Many people have heard of indentured servitude in the American colonies but may not know how common or prevalent it was, specifically in the northern Atlantic colonies. This poster will examine some of the known cases of indentured servitude, and the impact it had on laws and society. This presentation also aims at providing some insights into the struggles indentured servants faced while coming to America. Every experience was unique and yet many were the same. This poster attempts to contribute to a better understanding of this particular chapter of American History.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Thelen, Caitlyn
MS, Psychology (General Clinical) (PSYC)
Psychology
Dr. Chong Man Chow
Relationship Between Interpersonal Coping Styles and Depressive Symptoms in Young Adults
This study investigated (1) whether interpersonal coping with peers or parents accounted for variance in depressive symptoms and (2) if gender moderated the relationship between interpersonal coping and depressive symptoms. Participants consisted of 348 young adults who completed the following measures: Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983), Coping Questionnaire (Chow et al., 2014), and Brief Symptom Inventory (Derogatis & Melisaratos, 1983). The results showed that the three interpersonal coping styles with peers significantly accounted for more of the variance in depressive symptoms than interpersonal coping with parents. Higher dismissive, higher anxious-expressive, and lower adaptive coping styles with peers were related to more depressive symptoms. With regards to gender, anxious-expressive coping with peers was found to be positively correlated with depressive symptoms and adaptive coping with peers was negatively correlated with depressive symptoms in males. For females, dismissive coping with peers was found to be positively correlated with depressive symptoms while no forms of coping with either peers or parents were negatively correlated with depressive symptoms. These findings could direct clinicians to focus on strengthening relationships with peers rather than parents of young adults with symptoms of depression and to help explain the difference in prevalence rates seen between the sexes.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Thomas, Jis
MS, Information Systems (MSIS)
Computer Information Systems
Dr. David Chou
A Comparative Study of Big Data Practices in the IT Industry
The steady growth occurring in the retail, social media and the other techno-commercial areas has also necessitated finding robust solutions to manage the huge amount of data being generated every day. While storing the data is a foremost priority, analyzing and developing meaningful insights from these data has become very influential in driving business growth. Data that is too big, getting generated too fast, or too hard for existing tools to be processed are generally referred to the term "Big Data", and there are technologies adopted by several firms across various domains (e.g., Hadoop, NoSQL) to process big data. Although, several studies have been done before to analyze specific big data approaches, it is important to cross-compare the features of individual approaches, and how those approaches could help companies achieve business growth. This project will focus on a comparative study of various big data approaches within major retail as well as social media companies, and how those approaches are benefiting each company in maximizing their business revenue.
Oral Presentation Session #2: 10:30-11:45AM Room 320

Thornton, Tina
PhD, Educational Studies (EDST)
Nursing
Dr. Tsu-Yin Wu
Perceived Sources and Types of Social Support and Academic Success among Male Healthcare Students
Gender diversity, specifically men in health care, enhances the ability to provide care across the lifespan of our nation's current demographics. Males in nursing, social work, and occupational therapy should be a part of the diverse workforce to assist with positive patient care outcomes and delivery services. However, barriers related to masculine stereotypes, lack of educational experiences in the clinical and didactic settings, and high attrition rates decrease the likelihood for males entering these professions. Therefore, the purpose of this quantitative descriptive study was to examine the relationship of perceived sources and types of social support and academic success among male nursing, social work, and occupational therapy students using the revised Student Social Support Scale (SSSS) and grade point average (GPA). A convenience sampling of 127 male nursing, social work, and occupational therapy students were recruited in person and by email to complete a survey. The survey consisted of demographic information, GPA, and variables of the SSSS related to availability and importance of perceived social support among family, peers, faculty, and role model/mentors. The results of this quantitative study related to the relationship of perceived social support and academic success will be analyzed and reported.
Oral Presentation Session #4: 2:45-4:00PM Room 350

Travis, Lisa
SpA, Special Education (SP)
Special Education
Dr. Derrick Fries
The Relationship Between Autism and Gender Dysphoria
This project authenticates the existence of a relationship between autism spectrum disorder and gender dysphoria. Current literature validates the hypothesis that an increased number of children and young adults seeking support for gender dysphoria exhibit the propensity toward an autism spectrum disorder. Several theories are examined related to etiology and the co-morbid existence of autism spectrum disorder and transgenderism. Educators today must be adept at the implementation

of an individualized education plan for students on the autism spectrum, while at the same time, possess an awareness of other factors that impact a student's educational performance. In recent years, it is becoming more commonplace to see students on the autism spectrum present some form of gender variance. By providing the transgender student on the autism spectrum with targeted and purposeful support they will be equipped with the skills needed to thrive educationally and emotionally despite a myriad of challenges.
Oral Presentation Session #3: 1:15-2:30PM Room 350

Tsukiyama, Kimberly
PhD, Educational Studies (EDST)
Teacher Education
Dr. Wendy Burke
An Investigation of Teachers' Professional Learning and Development in Meeting the Needs of Language Learners
The success of teachers derives from the professional learning received in their teacher preparation program and ongoing professional learning opportunities. With the increasing number of language learners in the nation, teachers need specific skills and professional learning opportunities to build capacity to effectively meet the needs of their students, language learners in particular. Therefore, there is a need to examine the impact that current teacher preparation programs have on teachers' readiness to address and meet the varying needs of their diverse student populations. During this presentation, I will present the professional learning and development experiences of K-12 teachers who teach in high populations of native Arabic, Spanish, and Japanese speaking environments, as well as environments where English speaking students are learning a second language. The session will give insights on characteristics of teacher education programs, such as preservice coursework and field experience opportunities that are deemed valuable to teachers' preparation in meeting the needs of language learners. Participants will gain a richer appreciation for the critical role that teacher learning occupies in supporting language learners.
Oral Presentation Session #1: 9:00-10:15AM Room 302

Vojtkuľáková, Margita
MA, Teaching English to Speakers of Other Languages / TESOL
World Languages
Dr. Zuzana Tomas
Impact of an After-School Program on English Language Learners' (ELLs') Writing Performance and Attitudes to Writing
This pilot research study analyzes the effect of an eight-week after-school writing program on elementary school ELLs' attitudes toward writing. Specifically, the following three questions guide this study: What are elementary school ELLs' attitudes toward writing? To what extent does an engaging, writing-focused after-school program impact students' attitudes toward writing? What is the correlation between the writing attitudes and writing performance? The after-school program for the ELLs (grades 4 – 5) of a local elementary school was designed to improve ELLs' writing skills. The survey of students' attitudes toward writing was done at the beginning and at the end of the program. Additionally, pre- and post- tests assessed the writing skills and effects of the program. A statistical analysis of pre-tests and post-tests revealed significant changes in the students' performance (a mean score raised from 45.93% to 67.53%, p-value 0.05, effect size 1.38). The ELL's writing skills improved, and the program displayed positive impact on their performance. However, post-survey results showed that students' attitudes seemed to deteriorate, which can suggest both positive and negative interpretations.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Wandmacher, Vikki
PhD, Educational Leadership
Leadership & Counseling
Dr. Ron Williamson
Developing the Concept of Adolescence: Factors Converge
We accept as fact that adolescence is a separate period of life. It is not questioned. Yet this has not always been true. The concept of adolescence emerged in America at the waning of the 19th century due to the work of G. Stanley Hall and several societal factors, such as compulsory education, child labor laws, and the founding of a juvenile justice system (Bakan, 1971 p. 981). Hall convinced people that kids were growing up too fast and that childhood should be prolonged, guided by specialized institutions designed to meet their specific needs (Mintz, 2004 p. 187). In that era, a growing body of knowledge about emotional, physical, and sexual development brought forth a new understanding of children. This led to the view that adolescence is a separate and unique time in an individual's growth from child to adult. Eventually this shift in thinking changed the schooling of adolescents. These ideas set the stage for constructing the institutions and the societal treatment of children that still exist in the U.S today (Mintz, 2004 p. 186). Understanding the interplay of these factors and their role in developing the concept of adolescence grounds middle school research within the historical context.
Oral Presentation Session #4: 2:45-4:00PM Room 320

Winzeler, Jasmine
MS, Chemistry (CHM)
Chemistry
Dr. Steven Backues
The Binding Interactions of Atg11 and its Partners During Selective Autophagy
Selective autophagy targets dysfunctional components such as protein aggregates or damaged organelles for degradation. Autophagy maintains cell homeostasis by assisting with inflammatory responses, removing dysfunctional proteins and aggregates, and regulating energy. Several AuTophaGy related (Atg) proteins are central to initiation of selective autophagy in yeast: Atg11, Atg9, and Atg1-Atg13 complex. These proteins collectively form the autophagy initiation complex (AIC) and launch the process of autophagosome formation. Atg9, a transmembrane protein, labels the first vesicles that begin to form the autophagosome. Atg1 is a serine-threonine kinase, found in complex with Atg13, which activates downstream Atg proteins for autophagosome elongation. Central to these proteins is Atg11, a scaffolding protein responsible for organizing the AIC during selective autophagy. Atg11 is a coiled coil protein known to activate Atg1 and recruit Atg9. Currently unknown are residues on Atg11 to which its partners bind and whether these binding sites overlap spatially and/or temporally. We use the yeast two hybrid assay (Y2H), directed mutagenesis, and co-immunoprecipitation in Saccharomyces cerevisiae (baker's yeast) to investigate the binding sites of Atg11's

partners to further understand Atg11's role in organizing selective autophagosome initiation.
Oral Presentation Session #2: 10:30-11:45AM Room 300

Wisneski, Anastasia
BBA/MS, Accounting
Accounting & Finance
Dr. William LaGore
Creating a Culture of Ethical Behavior in Accounting Using a Commitment to Ethics and Integrity
The accounting profession is one that requires unwavering ethical behavior. Within any organization there are many strategies that can be implemented to create a culture to encourage ethical actions. The Committee of Sponsoring Organizations of the Treadway Commission created the "COSO Cube", which lays out 5 components that organizations can use to create and monitor internal controls. This project evaluates how one of these components (Control Environment) can be used to create a culture of ethical behavior. Within the component of Control Environment is the concept of a "Commitment to Ethics and Integrity". This project focuses on an organization's Commitment to Ethics and Integrity to promote ethical behavior. Literature shows that when an organization commits to such a culture, employees have increased job satisfaction, act with heightened ethical behavior, are less likely to commit fraud, and are more likely to report ethical behavior if it does occur. This project will address strategies often used to create an ethical environment, emphasizing the importance of a code of ethics and the tone set by top management, and discuss how these strategies have an impact on the behavior of employees. It will also make recommendations for improvement based upon recent literature and studies.
Oral Presentation Session #3: 1:15-2:30PM Room 320

Wolkowicz, Elizabeth
PhD, Educational Leadership
Leadership & Counseling
Dr. Ella Burton
Research Plan on the Cultural Impact on Schools Receiving Students from Closed Charter Schools
The state of Michigan has allowed an unlimited number of charter schools to operate and these schools tend to congregate in traditionally low performing districts. This policy has created a situation where there are a large amount of charter schools in these communities that have challenges with low student performance, the threat of low enrollment and financial instability. The problem that arises is that there are unintended consequences, due to this transition, that not only impact these displaced students individually, but also impact the culture of receiving schools. This qualitative study will analyze the impact that students transitioning from a closed charter school has on the culture of the receiving school through an examination of the experiences of key stakeholders involved in this transition. The study will focus on three receiving charter schools within the city of Detroit that have students that have transferred from charter schools that have closed. Data will be collected through interviewing receiving school leadership, teachers and support staff, parents of displaced students, and some non-minor displaced students to examine the impact that the socialization and acculturation of these displaced students has on the observable factors of school culture.
Oral Presentation Session #2: 10:30-11:45AM Room 302

Wood, Daniel J.
MA, Criminology and Criminal Justice (CRM)
Sociology, Anthropology, & Criminology
Dr. Peter Wood
Sex Offender Registries: From Weak Beginnings to a Moral Panic with Harsh Consequences
Offender registries are not a new concept but in recent years they have taken on a more active role. Their original purpose was to provide a list of possible suspects when certain crimes occurred. Now, due to "frightening and high" rates of commission and recidivism, sex offender registries are made public to "protect the most vulnerable citizens from repeat rapists and pedophiles" by minimizing the opportunity for the crime. They have expanded to include monitoring all aspects of an offender's life with severe restrictions. Recent evidence, however, has shown that the laws are not based on peer reviewed studies or extensive research. Instead, the often quoted "frightening and high" rate of recidivism for sex offenders is not true. In fact, many peer reviewed studies have shown a lower rate of recidivism for sex offenders than other offenders. Even with the lack of supporting data, public opinion of sex offender registries is high, advocating many restrictions, long prison terms, and lifetime monitoring. Some citizens have taken it upon themselves to seek retribution on behalf of society using the registry as a list of victims.
Oral Presentation Session #3: 1:15-2:30PM Room 330

Wright, Autumn
MS, Orthotics and Prosthetics (ORPR)
Health Promotion and Human Performance
Dr. Frank Fedel
Utilizing 3D Printing and Life Casting to Develop Anatomically Correct Models for Health Care Classes
Recent research indicates that 3D anatomically correct physical models for learning provide better outcomes in comparison to only a didactic lesson. (Fasel, et. al., 2014) This project integrated digital medical imaging and fabrication methods with conventional shape capture to create anatomically correct models for educational purposes in athletic training (AT) and orthotics and prosthetics (OP) health care education labs. MRI imaging data conversion software, 3D printing, and lifecasting were combined to create physical models that were used in undergraduate health care classes. These models provided both tactile and visual application of the theories presented in didactic lessons of knee and shoulder pathology. Documentation of the procedures necessary to duplicate this process are presented. This project was designed to be an inter-professional education activity within the School of Health Promotion and Human Performance.
Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Wright, Morgan
PhD, Clinical Psychology (PSYD)
Psychology
Dr. Jin Bo
The Effects of a Yoga Intervention on Motor Skills in Children with Autism Spectrum Disorder
Fifty to 100% of individuals with Autism Spectrum Disorders (ASD) experience difficulties with motor skills. Motor deficits can affect children's abilities to participate in physical activity and may also reduce opportunities for social engagement. Previous reports suggest that yoga may be an effective medium for improving motor skills in this

population; however, instructional methods have been inconsistent or inadequately described. The present study used an multiple baseline, AB design to implement an in-home yoga intervention and to examine its effects on the general motor skills of four children ages 10 to 14 with ASD. Yoga poses were instructed using a least-to-most or most-to-least prompt hierarchy. General motor skills were assessed pre- and post-study using the Bruininks-Oseretsky Test of Motor Proficiency Second Edition (BOT-2). Differential performance of yoga poses and upper-extremity muscle strength were systematically measured, the former through video-coding by trained, independent raters, the latter via a hand dynamometer. Visual analysis of the data suggests improvements in muscle strength, performance of yoga poses, and general motor skills. Yoga may offer a socially acceptable medium for improving motor skills and increasing physical engagement in children with ASD.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Yeh, YunTing

MS, Information Systems (MSIS)

Computer Information Systems

Huei Lee

The Rise of Big Data Policing Application: A Case Study of Taiwan

In recent years, Big Data application has revolutionized many fields worldwide. However, the policing application in Taiwan-M-Police Mobile Computer has been limited in forecasting criminal activities in real-time controlling. This paper concerns development of the function of predicting criminal activities which leads to over surveillance. The researcher surveyed both Taiwanese and non-Taiwanese residents and analyzed the data with Microsoft Power BI to conclude the prospective solution to develop a better policing application which will improve public safety and satisfaction.

Oral Presentation Session #1: 9:00-10:15AM Room 330

Yoon, Loris

MA, Speech-Language Pathology (SPLP)

Special Education

Dr. Sarah Ginsberg

Catching Up to Multiculturalism: An In-Depth Analysis of Bilingual Practices in Speech-Language Pathology

The importance of bilingual speech-language pathologists (SLPs) has been recognized by our field and yet there is little research on bilingual SLPs, primarily in regards to their experiences and practices. Only seven percent of the SLPs and audiologists in the field self-identify as bilingual service providers (ASHA, 2017). This number is far less than the growing number of culturally and linguistically diverse clients who are present in many daily caseloads of SLPs. There is still a gap between academic and clinical education, especially for bilingual professionals, as many SLPs feel unprepared to provide quality services (Caesar & Kohler, 2007; D'Souza et al., 2012; Kritikos, 2003). Therefore, this research project investigated the perspectives of current bilingual SLPs to gain insight into the extent of their bilingual speech-language education, clinical preparation, and practices. Each SLP's story will be presented in order to identify specific preparation paths and skills that may have helped, or hindered them in such that prospective and current bilingual SLPs can learn from their experience and gain knowledge and competence in serving a diverse range and mix of clients.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Zareanshahraki, Forough; Mannari, Dr. Vijay

PhD, Technology (PHD-TC)

Engineering Technology

Dr. Vijay Mannari

Sustainable UV/LED Curable Nail Gel Polishes Based on Renewable Materials

Nail polishes are one of the most widely used products in the US cosmetic industry, utilized by 117.34 million Americans in 2016, which is going to reach 122.66 million by 2020. Gel polishes are a specific class of nail polishes, with the ability to be cross-linked under ultraviolet (UV) radiation, and consequently demonstrate improved properties and greater durability compared to conventional nail polishes. They are usually offered in three layers: basecoat, polish, and clear top-coat. Each layer would be applied after curing the previous layer under radiation from a UV-mercury or UV-LED source. Most gel polishes available today are based on petrochemical-based resources making them unsustainable. Bio-based materials are excellent renewable resources, with high potential of meeting final-product performance, cost and environmental benefits. In addition to this, bio-based materials can be modified to make them amenable to be cured by advanced UV-LED light, that consumes low energy and is very safe for human exposure compared to conventional UV-mercury lamps. According to U.S. Department of Energy (DOE) technology roadmap, 10% of basic chemical building blocks should be derived from plant-based renewable resources by 2020 and this amount should increase to 50% by 2050. However, bio-based nail products have not been sufficiently studied by researchers. Therefore, considering the increasing consumption of nail polishes and to keep pace with the bio-based regulations and consumer preference, there is an urgent need to develop novel sustainable nail polish compositions with considerable Bio-Content. In this study, two Green UV-LED curable nail polish formulations, one high-solid zero-VOC and the other waterborne, both with considerable bio-content have been designed, and their performance was compared with a petro-based benchmark. Both formulations were cured under both UV-mercury and UV-LED radiation sources in order to evaluate their curing efficiency under a UV-LED source. The high-solid formulation demonstrated very promising performance, exceeding that of the benchmark, while waterborne formulation met most of the desirable requirements with some significant technical benefits.

Poster Presentation Session B: 1:15-2:30PM Room 310A/B

Zhang, Xinyuan

MA, Applied Statistics

Mathematics

Dr. Khairul Islam

Select and Analyze Top Features Associated with Heavy Drinking

This article attempts to select top features that are associated with heavy drinking using survey data. The survey participants are 1010 young people ranging in age from 15 to 30 years old. The survey collects various characteristics of participants by asking 150 questions about their socio-economic condition, health, personal traits and behavior. The first task is to select the top factors that are related to heavy drinking. The recent random forest method provides a faster selection of top related features to a specific variable. The application of random forest returns a list of top features that can be used as an initial selection. Next, a logistic regression is performed in order to analyze to what extent these features influence heavy drinking.

Oral Presentation Session #3: 1:15-2:30PM Room 320

Thank you!!

The Office of Graduate Studies and Research would like to thank the many individuals, organizations, and departments whose efforts have made this event a success!

Graduate Research Conference
Room Moderators, Abstract Reviewers, & Moderators

Sonia Chawla Wright, ORDA
Christine Kropelnyckyj, ORDA
Susan Campbell, ORDA
Jennifer Glass, ORDA
Dondi Goerlitz, ORDA
Tana Bridge, Graduate School
Julia Nims, Graduate School

In addition, thank you to today's room moderators who were selected after the printing of this program. We appreciate your support of our graduate student's and their participation in this year's conference.

GRC Coordination and Communications

Sarah Kurz, Graduate Assistant, Graduate School & ORDA

Tracy Pytlak, Graduate School & ORDA

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Alex Fodor, Student Worker, Graduate School & ORDA

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Special thank you to:

Caryn Charter, Kurt Kowlaski, Susan Gardner, EMU Student Center Event Planning & Catering Staff, Phyllis Britton, Wendy Kivi, EMU IT Department, & Standard Printing Ypsilanti

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