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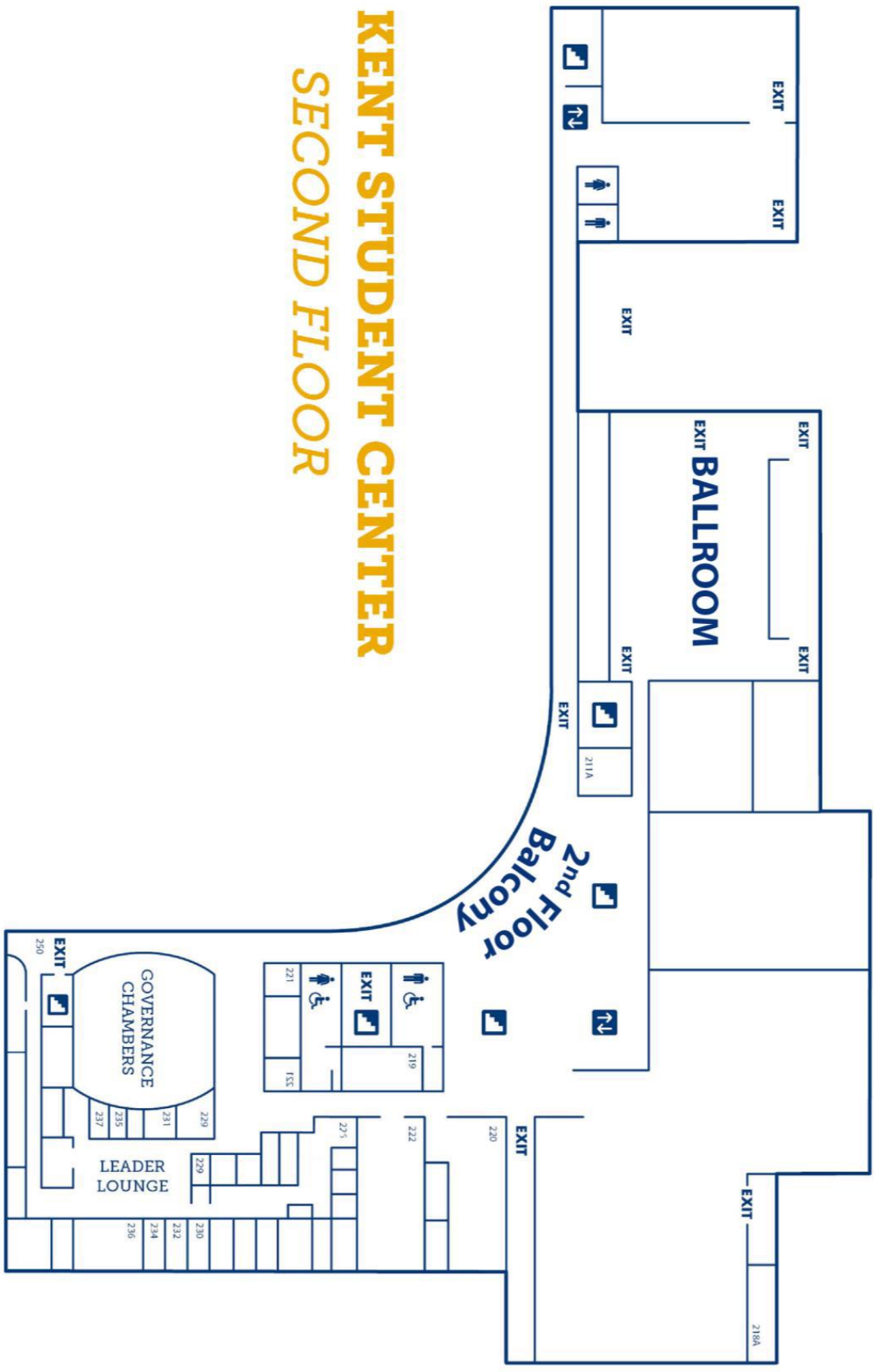
8:30am – 9:00am: **Registration (2nd Floor)**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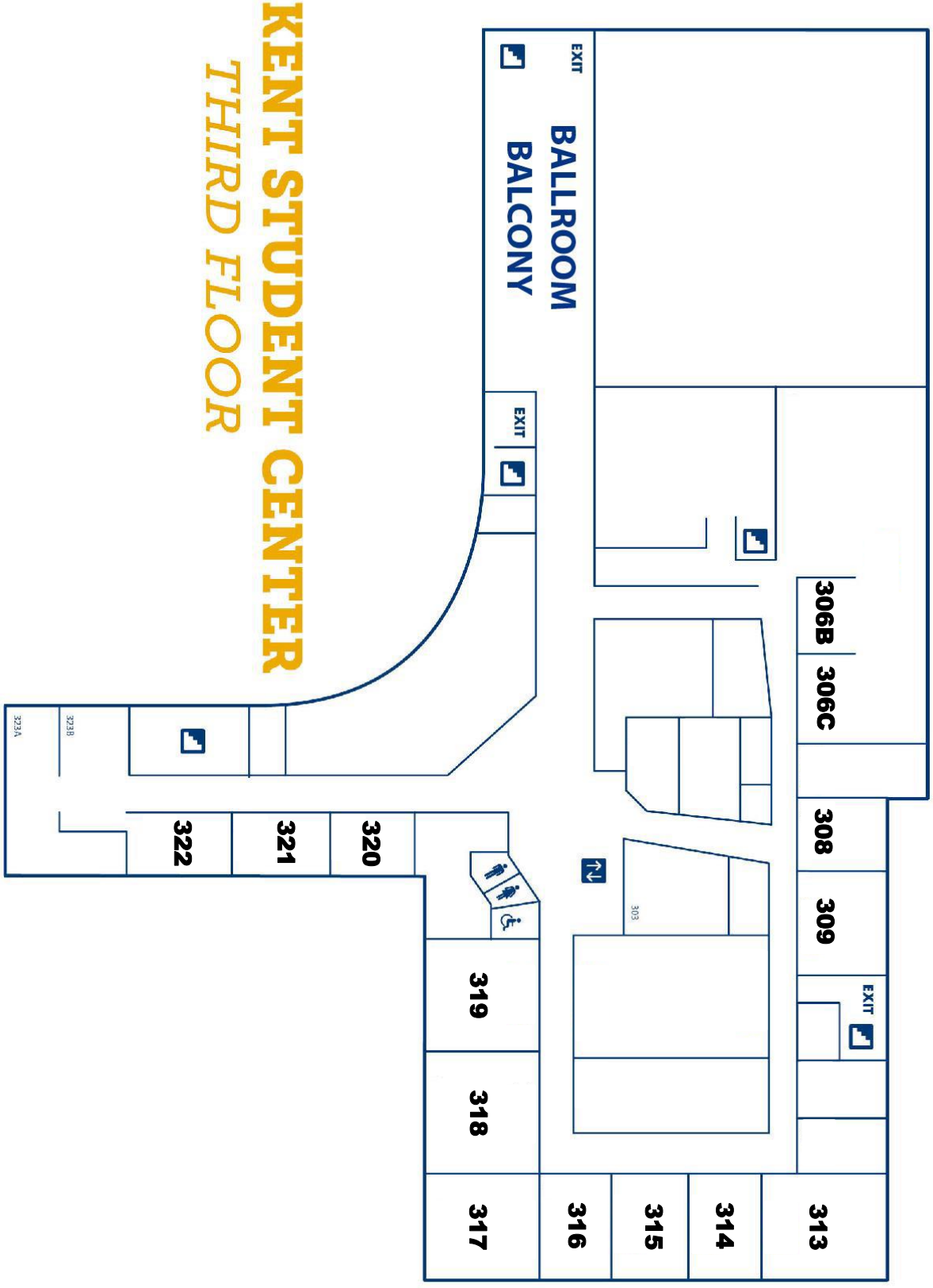
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ORAL PRESENTATIONS I

Anthropogenic Disturbance & Disasters

Room 306B

JUDGE(S): Dr. Dave Kaplan;
Dr. Marilyn A. Norconk, PhD

9:00 **Drew Fernando,** Modern & Classical Language Studies
The 2011 Fukushima, Japan nuclear disaster: Four years later

9:15 **Mohammed RummanHossain, Miao Jiang, QiHuo Wei, Laura Leff,** Biological Science
Adhesion of bacteria to microplastics in freshwater

9:30 **Raissa Mendonca, David Costello, G. Allen Burton,** Biological Science,
Coupling geochemistry and community ecology: Effects of nickel-contaminated sediments on benthic macroinvertebrate communities

9:45 **Laura Zemanek, David Singer, Elizabeth Herndon,** Geology
A geochemical and mineralogical comparison of soil formation on mine tailings and undisturbed shale and their contributions to stream chemistry, Huff Run Watershed, Ohio

Applied Clinical Research

Room 306C

JUDGE(S): Dr. Laurie M. Wagner, MCHES;
Dr. Vincent J. Hetherington, DPM

9:00 **Curtis Fennell, Mallory Kobak, Ellen Glickman, Jacob Barkley,** Health Science
Validation of a low-cost commercially-available accelerometer during low and high physical activity conditions in children.

9:15 **Zahra Ghasemahmad, Saeid Farahani,** Biomedical Science
Enhanced auditory steady state responses in subjective idiopathic tinnitus

9:30 **Taissir Nouri,** Biological Science,
Non-self MHC conversion into self MHC* utilizing a gene editing technique*

Applied Physical Science

Room 304

JUDGE(S): Evren Koptur, PhD;
Dr. Yanhai Du

9:00 **Abdullah Alalawi,** Applied Engineering, Sustainability, & Technology
Electron beam technology

9:15 **Sunil Badal, Jacob T. Shelley,** Chemistry & Biochemistry
Changes in plasma and ionization chemistry of a flowing atmospheric-pressure afterglow (FAPA) ambient desorption/ionization (ADI) source

9:30 **Aliaa Maar,** Applied Engineering, Sustainability, & Technology
Development of advanced ceramic fuel cells using additive manufacturing technology: Design and modeling

9:45 **Imtiyaz Siddiqui, Mohammed Abdul Azeez,** Applied Engineering, Sustainability, & Technology
A transformer less grid connected photo voltaic system based on coupled inductor

10:00 **Theo Woodson,** Applied Engineering, Sustainability, & Technology
Development of tubular-solid oxide fuel cell anode substrates by freeze casting and freeze drying processes

10:15 **Tinghe Xu, Karthik Rayala, Sreenivasa Reddy Ambati,** Applied Engineering, Sustainability, & Technology
Hybrid solar-fuel cell power systems

Nucleic Acids Research

Room 308

JUDGE(S): Dr. Bansidhar Datta

9:00 **Chiran Ghimire, Yunxi Cui, Hanbin Mao,** Chemistry & Biochemistry
Determination of ligand-binding quartets in telomeric G-quadruplex by mechanochemical dissection

9:15 **Prakash Kharel, Soumitra Basu,** Chemistry & Biochemistry
Investigation of RNA oxidative damage in human neuronal cells

9:30 **Parastoo Maleki, Hamza Balci,** Physics
Single molecule dynamics of G-quadruplex and telomestatin interactions

9:45 **Gayan Mirihana Arachchilage, Joshua Reid, Soumitra Basu,** Chemistry & Biochemistry
Locked nucleic acid (LNA) mediated targeting of microRNAs to inhibit human lung cancer cell proliferation

10:00 **Sangeetha Selvam,** Chemistry & Biochemistry
Molecular population dynamics of tetraplexes in duplex DNA

10:15 **Sumirtha Thanikaikumaran,** Chemistry & Biochemistry
G-quadruplex (GQ) driven functional modulation in the human piwi interacting RNAs (piRNAs)

Art & Music

Room 309

JUDGE(S): Dr. Linda Hoeptner Poling, PhD; Eric van Baars

9:00 **Sarah Bartram,** Art
The fragment as a manifestation of non-finito in Rodin's oeuvre: The amputated form, the isolated body part, and assemblages

9:15 **Shawn Diamond,** Art
Requiem for the shadows: Future memory in the light strings of Felix Gonzalez-Torres

9:30 **Kevin Alexander Wilson,** Music
Weepers: A duo for flute and clarinet

9:45 **Xiaorong Yuan,** Music
Authenticity in Chinese minority rock and roll: A case study of Shanren, an ethnic minority indie band from Yunnan, China

10:00 **Shasha Zhu,** Art
Wooden fish from a religious sacrificial vessel to a percussion instrument verify the transnational functional change

Biological Science I

Room 322
JUDGE(S): Dr. Tariq M. Haqqi, PhD; Prof. Songping D. Huang

9:00 **Fouad Moussa, Gregory Sondag, Thomas Mbimba, Kimberly Novak,** Biomedical Science
A novel role of miR-150 in bone homeostasis

9:15 **Sewwandi Rathnayake, Edgar Kooijman,** Biological Science
Lipid interactions of proteins carrying amphipathic alpha helix bundles

9:30 **Aidan Ruth, Tobin Heironymus, Owen Lovejoy,** Biomedical Science
Differences in anterior cruciate ligament fiber orientation between digitigrade and palmigrade animals

9:45 **Priya Putta,** Biological Science
Differential binding of protein to phosphatidic acid

Biological Science II

Room 302
JUDGE(S): Dr. Heather Caldwell; Jeffrey G. Mellott, PhD

9:00 **Holly Cappelli, Roslin J. Thoppil, Ravi Adapala,** Biomedical Science
Mechanosensitive ion channel TRPV4 negatively regulates angiogenesis via modulation of Rho/Rho kinase pathway

9:15 **Rebecca Curry, Yong Lu,** Biomedical Science
Much ado about chloride: How a dynamic intracellular chloride concentration influences a sound localization circuit

9:30 **Ashley Nemes, Katayoun Ayasoufi, Zhong Ying, Imad Najm,** Biomedical Science
The role of growth associated protein 43 (GAP-43) in epileptogenesis

9:45 **Gina Wilson, Matthew A. Smith, Christine M. Dengler-Crish, Samuel D. Crish,** Biomedical Science
Seeing past the eye: How cytoskeletal protein modifications in the brain may drive development and progression of glaucoma

Clinical Science

Room 314

JUDGE(S): Dr. Vinay K. Cheruvu, PhD; Dr. Sheryl Chatfield

9:00 **Lauren Birmingham, Thaddeus A. Cochran, Jennifer A. Frey, Kirk A. Stiffler, Scott T. Wilber,** Public Health
Barriers and service for frequent emergency department users

9:15 **Alexa Copeland, Adil Sharag-Eldin,** Architecture & Environmental Design,
The impact of patient room design on airborne hospital-acquired infections (HAI)

9:30 **Leen Nahouli,** Health Science
Audiology without borders: Hearing beyond ears

9:45 **Carissa Smock,** Public Health
Physician utilization, training and acceptance of exercise prescriptions

10:00 **Anush Yarava,** Public Health
Implementation of clinical pharmacists activities in identifying drug therapy problems and improving medication adherence to provide better patient care

Cognition & Memory

Room 315

JUDGE(S): Dr. Clarissa Thompson; Dr. Judith Gere

9:00 **Michael Baranski, Christopher Was,** Psychological Sciences
Brief mindfulness training leads to improved executive function

9:15 **Dale Hirsch,** Lifespan Development & Educational Science
Declarative and procedural mechanisms in long-term memory

9:30 **Amber Rochette, Mary Beth Spitznagel, John Gunstad, Gladys Strain,** Psychological Sciences
Mild cognitive impairment is prevalent in persons with severe obesity

9:45 **Rachael Todaro, Bradley Morris, Christopher Was, Colleen Dragovich,** Lifespan Development & Educational Science
Investigating the role of context in interleaved problems

10:00 **Mengjiao Wu, Christopher Was, Kristen Chorba,** Lifespan Development & Educational Science,
The relationships between executive functions and metacognition

Computer Science

Room 320

JUDGE(S): Prof. Jonathan I. Maletic, PhD; Dr. Hai Q. Dinh

9:00 **Naser Al Madi, Mohammed Alali, Ismael Ali, Basma Alqadi, Tahani Albalawi,** Computer Science
Online hypergraph visualization tool using d3.js

9:15 **Rusul Alsaedi, Gokarna P. Sharma,** Computer Science
Mutual visibility for fat robots

9:30 **Mehdi Ghayoumi, Arvind K. Bansal,** Computer Science
An integrated approach for efficient analysis of facial expressions

9:45 **Nahla Abid, Natalia Dragan, Michael L. Collard, Jonathan I. Maletic,** Computer Science
Using stereotypes in the automatic generation of natural language documentations for C++ method

Earth Science

Room 321
JUDGE(S): Dr. Tom Schmidlin

9:00 **Chenjian Fu, Christopher Rowan, Xinyue Ye,** Geology
Building better apparent polar wander paths: Measuring similarity between calculated paleomagnetic APWPs and the fixed hotspot model predicted APWP

9:15 **Md Islam, Scott Sheridan,** Geography
Self-organizing map: The monsoon seasonality in Bangladesh

9:30 **Johnathan Kirk,** Geography
Defining and characterizing large precipitation events in the Upper Colorado River Basin

9:45 **Erik Smith,** Geography
The seasonality of cold air outbreaks in the Eastern United States and the influence of atmospheric teleconnections

Fashion

Room 316
JUDGE(S): Cynthia R. Stillings;
Dr. Catherine A. Leslie

9:00 **Sophia Adodo,** Fashion
Royal Mbebana

9:15 **Sophia Adodo,** Fashion
The fashion runway through a critical race theory lens

9:30 **Lauren Brallier,** Fashion
A point of tension: Using personas to improve the apparel design process - A BMX analysis

9:45 **Gordon Stumpo, Margarita Benitez,** Fashion
3D parametric modeling and digital fabrication: Creation of custom display and designer dress/body forms

10:00 **Caroline Surrarrer,** Fashion
Behind the labels: Libby Payne, fashion designer for "Mrs. Main Street America"

Foundations, Leadership, & Administration

Room 317
JUDGE(S): Dr. Swathi Ravichandran, PhD;
Dr. Greg E. Blundell, PhD

9:00 **Suliman Al Musaiteer,** Foundations, Leadership, & Administration
Saudi students' experience of intercultural communication

9:15 **Erika Gallion, Tabetha Maly, Erika Gallion,** Foundations, Leadership, & Administration
American student affairs practices abroad: A summer spent in Bulgaria and Kuwait

9:30 **Mayagul Satlykgylyjova,** Foundations, Leadership, & Administration
Toward identity construction of central Asian women students in American higher education

9:45 **Carol Winter,** Foundations, Leadership, & Administration
Women superintendents, the feminist ethic, and organizational leadership

10:00 **Tianhong Zhang,** Foundations, Leadership, & Administration,
Transfer: A threshold concept in intercultural competence development in case of intercultural interactions between international and America students

Gender & Feminism

Room 318
JUDGE(S): Caylee M. Heiremans, MLIS

9:00 **Delilah Ellzey, Kallie Petitti, Angela Neal-Barnett,** Psychological Sciences
Don't nobody care about us girls

9:15 **Leigh Hughes,** Visual Communication Design
Video games help to prepare girls for a competitive future: Investigating how interactive games develop visual-spatial skills and the influence early childhood gaming has on female development

9:30 **Jaietta Jackson,** Foundations, Leadership, & Administration
Dear Mama: The parental influence of a single mother on black male college success

9:45 **Bethanie Mauerman,** Lifespan Development & Educational Science
Living outside the lines: Possible challenges of living within the binary system

History & Archaeology

Room 319
JUDGE(S): Dean Jim Bracken, PhD; Dr. Yuko Kurahashi

9:00 **Michelle Bebber,** Anthropology
Experimental ceramics and determining the force of change: A material science approach to understanding temper selection in the prehistoric ceramic sequence of the Scioto River Valley, Ross County, Ohio

9:15 **Philip Shackelford,** History
Fighting for air: Cold War reorganization and the U.S. Air Force Security Service, 1945-1950

9:30 **Pietro Shakarian,** History
Journey to Ararat

9:45 **Wesley Toth,** History
The 79th Pennsylvania Volunteer Infantry: Civil War experiences culminating in the March to the Sea

10:00 **Stephanie Vincent,** History
The effects of welfare capitalism on American pottery workers

10:15 **Brittney Harrell,** Theater & Dance
The trouble with masking: Cultural ramifications from the practice of masking during the seventeenth-century Venetian carnival season

Urban Issues & Design

Room 313
JUDGE(S): Dr. V. Kelly Turner;
F. William Lucak

9:00 **Hanieh Haji Molana,** Architecture & Environmental Design,
Evaluating sense of community in the public spaces of residential neighborhoods in Tehran, Iran

9:15 **John Orsini,** Architecture & Environmental Design,
The wall as moment and place: Case studies on the wall's significance

9:30 **Benjamin Schanfish, Adil Sharag-Eldin,** Architecture & Environmental Design
Survival city: A resilience model for a shrinking Ohio city

9:45 **Joe Tokosh,** Geography,
Shopping malls: Detriments of performance and elements of adaptation

10:00 **Christopher Willer,** Geography,
From commercial strip to urban village: A historical geography of the elmwood village

10:15 **Ryan Hammond,** Visual Communication Design,
Designer as cultivator: An exploration in critical making for the care of interdisciplinary culture

POSTER PRESENTATIONS

Poster Session 1
JUDGE(S): Dr. John Updegraff;
Dr. Doug Delahanty

1 **Naser Al Madi,** Computer Science
Predicting learning performance and cognitive activity using EEG

2 **Jason Anderson, Rachel Galioto, John Gunstad, Mary Beth Spitznagel,** Psychological Sciences
Effects of sleep quality and glucoregulation on sustained attention, working memory, and inhibitory control in healthy young adults

3 **Alanna Feltner, Clarissa Thompson,** Psychological Sciences
Playing to learn: Helping children learn fraction magnitudes through board games

4 **Kevin Lancki, James Bates, Alan Taylor, Kelly Cichy,** Sociology
A blast from the past: Grandfather age and lineage work

5 **Emily Munger, Atsushi Takemoto, Katsuki Nakamura,** Anthropology
Learning and memory in aged common marmosets

6 **Amanda Zamary, Katherine A. Rawson,** Psychological Sciences
Example classification as a strategy for learning declarative concepts

Poster Session 2
JUDGE(S): Kelly A. Riley;
Dr. Suzy D'Enbeau

7 **Abdulelah Al-Tokhais, Ning-Kuang Chuang,** Foundations, Leadership, & Administration
Impact of tourism development on perception of community life

8 **Kate Klonowski,** Foundations, Leadership, & Administration
A case study of collaborative journalism across diverse student communities

9 **Anna Solberg,** Geography
Tourists: Perceptions of their environmental impact within Tanzania

10 **Qiong Tao, Kim Hahn,** Fashion
The best niche market and the optimized design for dresses with modernized Chinese motif: A case study of Qinghua (Blue-and-White)

11 **Qiong Tao, Kim Hahn,** Fashion
Self-construals, types of social media usage and consumer decision-making styles: A study of young Asian Americans

Poster Session 3
JUDGE(S): Dr. Yanhai Du

12 **Srijana Bhandari, Barry D. Dunietz,** Chemistry & Biochemistry
Theoretical study of photo-physical processes for coumarins inside a shell of octa acid capsule: An LRC-TDDFT approach

13 **Arosha Dassanayake, Nilantha Wickramaratne, Songping D. Huang, Mietek Jaroniec,** Chemistry & Biochemistry
Efficient uranium extraction from oceans: Economical strategy to upkeep nuclear reactors in the future

14 **Pramila Ghimire, Chamila Gunathilake,** Chemistry & Biochemistry,
Amidoxime-based carbon-silica composite materials for carbon dioxide sorption

15 **Chamila Gunathilake, Mietek Jaroniec,** Chemistry & Biochemistry
Amidoxime-functionalized microcrystalline cellulose-mesoporous silica composites for carbon dioxide sorption at elevated temperatures

16 **Catherine Laspina,** Chemistry & Biochemistry
Hyaluronic acid curcumin conjugate for rheumatoid arthritis treatment

Poster Session 4
JUDGE(S): Dr. Adil Sharag-Eldin;
Rui Liu, PhD

17 **John Adkins, Ji Young Cho,** Applied Engineering, Sustainability, & Technology
Biophilia and behavior: The relationship between nature and productivity

18 **Kelsey Atchison, Ji Young Cho,** Architecture & Environmental Design,
Studio culture's effects on motivation

19 **Leandra Buchin,** Architecture & Environmental Design
Creating an image: Impact of architecture firm branding on client identification

20 **Zachary Forney,** Architecture & Environmental Design
The optimization of collaborative design through an egalitarian team structure

21 **Marc Lins, Ji Young Cho,** Architecture & Environmental Design
The distorted image: How architectural marketing practices create misconceptions of building development

22 **John Popple,** Architecture & Environmental Design
Building a brand: Expanding architecture across new forms of information

Poster Session 5
JUDGE(S): Dr. Elwin C. Robison

23 **Saloomeh Gharehgozlou,** Architecture & Environmental Design
Using cool roofs to reduce urban heat island

24 **Zachary Karto,** Architecture & Environmental Design
Supplemental green roof system; an algal Trombe wall addition

25 **Tyler Lunevich,** Architecture & Environmental Design
Urban heat island: Mitigating negative impacts through urban forms and building surface materials

26 **Kyle Matheny,** Architecture & Environmental Design
Reduction of carbon footprint in Cleveland's industrial sector

27 **Taylor Pfeffenberger,** Architecture & Environmental Design,
Assessing pollution reduction from adaptive re-use of a Cleveland commercial building

28 **Laura Sugano, Anne Jefferson, Lauren Kinsman-Costello, Pedro Avellaneda,** Geology
Evaluating bioretention cell and green roof performance in Parma, OH

Poster Session 6
JUDGE(S): David Durca

29 **Matt Fisher,** Architecture & Environmental Design
Design for the re-building community: Community development in forgotten cities through construction/renovation

30 **Adrian Helton, Adil Sharag-Eldin,** Architecture & Environmental Design
Participatory architecture + Re-urbanization: Discourse continued

31 **Forrest Paige,** Architecture & Environmental Design
A phenomenological study of the hyper-normative appropriation of urban space by parkour runners

32 **Christopher Persons, Ji Young Cho,** Architecture & Environmental Design
Digital access: The affect of connected society on architectural space and organization

33 **Christopher Persons,** Architecture & Environmental Design
User affect: The possibilities of responsive surfaces in architecture

34 **Adam Prtenjak,** Architecture & Environmental Design
Subconscious qualities of color and sound of space

Poster Session 7
JUDGE(S): Dr. Mary Beth Spitznagel PhD; Dr. Karin Coifman

35 **Monica Garcia, Douglas L. Delahanty,** Psychological Sciences
Hydrocortisone treatment study: The effects on hyperarousal symptomology in PTSD

36 **Angela Junglen, Anna Wise, Monica Garcia, Douglas L. Delahanty,** Psychological Sciences
Dopamine levels as a predictor of PTSD symptoms in individuals with an HIV diagnosis

37 **Joseph Lynch III, Jordan Adkins, Megan Butler, Aaron Jasnow,** Psychological Sciences
Glutamate receptor antagonists block estradiol induced generalization

38 **Jon Stavres, Hayden Gerhart, Ellen L. Glickman, YongSuk Seo,** Health Science,
Predictors of mathematical performance in normoxia and normobaric hypoxia

Poster Session 8
JUDGE(S): Dr. Linda Spurlock; Dr. Heather Beaird

39 **Matthew Dyne,** Geography
The (not so woody) woodlands?: The case of Harris County, Texas

40 **Andrea Fitzgibbon, David Costello,** Biological Science
Micron-scale spatial and diel variation in oxygen at the biofilm-sediment interface

41 **Angelica Scianna, Alescia Roberto,** Biological Science
Distribution of tetracycline resistance genes in an urban northeast Ohio stream

42 **Andrew Skrinyer,** Anthropology
Living on the edge: An assessment of habitat disturbance and primate distribution on the Osa Peninsula, Costa Rica

Poster Session 9
JUDGE(S): Dr. Linda Hoeptner Poling, PhD; Ching-I Chen

43 **Sebiha Balci, Bradley J. Morris, Jonathan M. Secaur,** Lifespan Development & Educational Science
Effects of different gamification tools on academic performance and motivation

44 **Kyle Bauer,** Lifespan Development & Educational Science
Coaching caregivers on Incidental teaching strategies to enhance the communication and spontaneous speech in young children with expressive language delays

45 **Jenny Worthington,** Lifespan Development & Educational Science
Using computer-assisted lessons to teach social skills to children with higher functioning autism spectrum disorder

46 **Ethan Rothermel, Ji Young Cho,** Architecture & Environmental Design
Let them compete: The effects of competition on design education

47 **Kimberly Travers,** Lifespan Development & Educational Science
Individual family service plan outcome assessment tool: Validation and community implementation

48 **Colleen Tullis,** Lifespan Development & Educational Science,
Increasing joint attention between young children with autism and their primary caregivers.

Poster Session 10
JUDGE(S): Dr. Tara C. Smith; Dr. Laurie M. Wagner, MCHES

49 **Weichuan Dong,** Geography
Analyzing Twitter data as a proxy to examine relationship between socioeconomic status and vaccination choice

50 **Jhalka Kadariya, Dipendra Thapaliya, Sabana Bhatta, Tara Smith,** Public Health
Prevalence and molecular epidemiology of Staphylococcus aureus *among Bhutanese refugees in Nepal and in northeast Ohio*

51 **Rachael Nolan, Sheryl L. Chatfield,** Public Health
A qualitative meta-study of hand hygiene practices among healthcare workers worldwide: Research synthesis and practical implications

52 **Lorriane Odhiambo,** Public Health
Prevalence of asthma, chronic obstructive pulmonary disease (COPD) and smoking in an urban African American church population.

53 **Karuna Ramcharran,** Public Health
Emergency preparedness plan for infectious disease outbreaks in Portage County

Poster Session 11
JUDGE(S): Dr. John Gunstad; Jeffrey G. Mellott, PhD

54 **Angela Freeman, James F. Hare, W. Gary Anderson, Heather K. Caldwell,** Biological Science
Sex-dependent effects of central vasopressin administration on Richardson's ground squirrel social behavior

55 **Leah Kershner, Kristy Welshhans,** Biological Science
RACK1 is necessary for the formation of point contacts and regulates axon growth

56 **John Shelestak,** Biomedical Science
Assessing toxic demyelination induced via Cuprizone treatment

57 **Alyx Weaver, Ernest Freeman,** Biological Science
Melatonin as a drug for the preservation of lipid metabolism and myelination in Multiple Sclerosis

58 **Shannah Witchey, Heather K. Caldwell,** Biological Science
Maternal behavior in virgin forebrain oxytocin receptor knockout mice

Poster Session 12
JUDGE(S): Dr. Julia J. Huyck, PhD; Dr. Wendy Umberger, PhD

59 **Spencer Andrei, Pritam Sinharoy, Ian N. Bratz, Derek S Damron,** Biomedical Science,
Functional expression of TRPA1 *and* TRPV1 *in adult ventricular cardiomyocytes*

60 **Sara Harper, Morgan Cooper Bagley, Lisa Chinn, John McDaniel,** Health Science
Comparison of peak torque and aerobic capacity imbalances in the lower limbs

61 **Tracey Motter, Karen Mascolo,** Nursing
Improving RN competencies with a nurse internship (NI)

62 **Laurie Robinson,** Nursing
Is Foley catheter induction as effective and safe as Misoprostol for cervical ripening: A look at evidence-based practice

63 **Cody A. Ruiz, Morgan E. Chaney, Anthony J. Tosi,** Anthropology
Medical-grade buccal swabs vs. drugstore cotton swabs: No difference in DNA yield

64* **Erica Stahl,** Nursing
Transitioning to a validated behavioral pain scale for critically ill adult patients

Poster Session 13
JUDGE(S): Dr. Kathy Siesel, DPM

65 **Nicholas DiMassa,** Podiatric Medicine
The dumb tendon: Replacement of tendon with granulation tissue during wound healing can result in maintenance of tendon function

*This poster is nominated for the President's Award (p. 25) and should not be judged by the judges in session 12.

66 **Mina Ghassemi, Eugene Cheng, Scott Bastian, Steven Stuto,** Podiatric Medicine
Average foot temperatures in the healthy, diabetic and neuropathic foot

67 **Terryn Marette,** Podiatric Medicine
Case study report: Chronic venous ulcer subsequently diagnosed with acroangiodermatitis

68 **Ian Newport, Jeffrey Whitaker,** Podiatric Medicine
Treatment of chronic Achilles tendinopathy with a modified flexor hallucis longus tendon transfer/augmentation

69 **Stephanie Petrofski, Kati Waters, Carl Kurzel, Bryan Caldwell,** Podiatric Medicine
Multiplex PCR with pyrosequencing in the diagnosis of onychomycosis

70 **Emily Zulauf,** Podiatric Medicine
Does implantation of verruca plantaris into abductor hallucis muscle belly prevent recurrence?

Poster Session 14
JUDGE(S): Peter V. Marks; Dr. Maggie Stedman-Smith, PhD

71 **Michael Carnessali,** Architecture & Environmental Design
Health habits and risk factors in current studio culture

72 **Pamela Haberman,** Architecture & Environmental Design
Health Concerns: The impact of sustainable design inside hospitals

73 **Rachel Kirkwood, Adil Sharag-Eldin,** Architecture & Environmental Design
The effects of cool paving on pedestrian comfort levels

74 **Brandi Miller,** Architecture & Environmental Design
Resilient small towns: Marietta

75 **Regan O'Neill,** Architecture & Environmental Design
Tiny housing: Viable solution or 21st century fad?

76 **Walter Vanscoter,** Architecture & Environmental Design
Primary motivation for walking path selection on Kent State University, Main Campus

77 **Nicholas Young,** Architecture & Environmental Design
Building material shapes a city

Poster Session 15
JUDGE(S): Dr. Joel W. Hughes, PhD; Dr. Jennifer Taber

78 **Shaima Almahmoud, Shaima Almahmoud, Karin Coifman,** Psychological Sciences
Self-enhancement and emotional experience among patients with chronic illnesses

79* **Marissa Gastelle, Aimee Hammer, Josefina Grau,** Psychological Sciences
Latina adolescent mothers' parenting attitude: Relations to parenting stress

* This poster is nominated for the President's Award (p. 25) and should not be judged by the judges in session 15.

80 **Lauren Wood, Aimee Hammer, Marissa Gastelle, Josefina Grau,** Psychological Sciences
Latina adolescent mothers and toddlers' compliance: Maternal affect moderates control

81 **Lauren Wood, Aimee Hammer, Josefina Grau,** Psychological Sciences
Reported parenting stress predicts Observed guidance and control behaviors for Latina adolescent mothers

Poster Session 16
JUDGE(S): Dr. Sloane R. Burgess; Dr. Belinda S. Zimmerman

82 **Danielle Dillon,** Public Health
Youth leadership summit: Empowering adolescents through service

83 **Erin Goodridge,** Lifespan Development & Educational Science
Coaching parents on intervention strategies to increase communication during play

84 **Logan Kochendorfer, Kathryn Kerns,** Psychological Sciences
Romantic relationships in adolescence: Understanding the influence of parents and friends

85 **Randi McDaniel,** Lifespan Development & Educational Science
The effects of parent-implemented prelinguistic language strategies on young children with communication delays

86 **Linda Wiley,** Lifespan Development & Educational Science
Using multimedia podcasts to support parent-implemented language intervention

87 **Amanda Yoho,** Lifespan Development & Educational Science
Enhancing communication during play-based interactions between the parent and child in the natural environment

Poster Session 17
JUDGE(S): Caylee M. Heiremans, MLIS; Emmanuel Dechenaux

88* **Jennifer Cooks, Mansi H. Mehta, Kate J. Zelic, Jeffrey A. Ciesla,** Psychological Sciences
Examining perfectionism and changes in affect and rumination

89 **Alynn Gordon, Kristin Mickelson,** Psychological Sciences
A preliminary test for egalitarian essentialism in the general population of the United States

90 **Mansi Mehta, Kate J. Zelic, Jennifer A. Cooks, Jeffrey A. Ciesla,** Psychological Sciences
Daily fluctuations in women's mood

91 **Neslihan Unluol Unal, Suleyman Akcil,** Lifespan Development & Educational Science
Factors influencing treatment acceptability: A review of the literature

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* This poster is nominated for the President's Award (p. 25) and should not be judged by the judges in session 17.

92 **Phil Willke,**
Library & Information Science
Authentic leadership and psychological capital

93 **Kate Zelic, Mansi Mehta, Jennifer Cooks, Jeffrey Ciesla,**
Psychological Sciences
A multidimensional view of relational victimization

Poster Session 18
JUDGE(S): Dr. Soumitra Basu, PhD;
Dr. Sanjaya C. Abeysirigunawardena

94 **Nathan Beals, Prakash Kharel, Werner Geldenhuys, Soumitra Basu,** Chemistry & Biochemistry
New outlook on Parkinson's treatment: A dual targeting nanoparticle complex for more efficient delivery of Curcumin improves neuroprotection

95 **Anthony Giovengo,**
Chemistry & Biochemistry
Probing vitamin B12 processing and storage with advanced Cobalamin conjugates

96 **Suranjana Goswami, Rahul Bhattacharjee, Srinivasan Vijayaraghavan,** Biological Science
Identificaion of substrates of sperm protein kinase A using a chemical-genetics approach

97 **Mohammad Rahman, Yang Zhou, Nicola E. Brasch, Paul Sampson,**
Chemistry & Biochemistry
Synthesis and photochemical studies of new photoremovatable nitroxyl (HNO) releasing compounds

98 **William Roy, Mohamed Farhath, Soumitra Basu, Hamza Balci,**
Physics
A single molecule study of G-quadruplex and short duplex DNA structures

99 **Prakash Shrestha, Hanbin Mao,**
Chemistry & Biochemistry
Single-molecular mechanoanalysis reveals hierarchical formation of G-quadruplexes during transcription

100 **Sumirtha Balaratnam, Joel Caproso, Stephanie M. Bilinovich, Thomas Leeper, Soumitra Basu,**
Chemistry & Biochemistry
SHARP protein causes the remodeling of SRA1 lncRNA structure

101 **Sriramakrishna Yarabarla,**
Chemistry & Biochemistry
Copper based nanoparticles exhibit higher cytotoxicity toward cancer cells

Poster Session 19
JUDGE(S): Brian Peters

102 **Lauren Dargay,**
Journalism & Mass Communication
Relationships between elite news frames and frames in user comments: An analysis of terrorism coverage and follow-up comments on the New York Times online

103 **Caleb Heller, Kelsey Atchison, Saloomeh Gharehgozlou, Hanieh Haji Molana,**
Architecture & Environmental Design
An autopsy of an environmental tragedy: 1995 Chicago heat wave

104 **Danielle Jones, Adil Sharag_Eldin,**
Architecture & Environmental Design
9/11: A 9-1-1 call the nation wasn't prepared for

105 **Haley Wachholz,** Geography
One disaster leads to another: A look at the outcome of a dual disaster in Seattle, WA

106 **Zheye Wang, Xinyue Ye,** Geography
Multi-dimensional analysis of Twitter for wildfire hazards in San Diego County, California

107 **Huanyang Zhao,** Geography
Simulating natural disasters: An integration of Netlogo and R statistical environment

Poster Session 20
JUDGE(S): Dr. David E. Sharp

108 **Hayden Gerhart, Yongsuk Seo, Jon Stavres, Ellen Glickman,**
Health Science
Gender differences in running memory and mood state during submaximal exercise in normobaric hypoxia

109 **Maeson S. Latsko, Aaron M. Jasnow,** Psychological Sciences
Does elevated corticosterone predict adult resistance to prepubertal social defeat?

110 **Scout McCully,**
Psychological Sciences
Task-switching predicts spontaneous means-shifting in young adults' physical activity

111 **Maria Nylocks, Lee T. Gilman, Maeson Latsko, Karin G. Coifman,**
Psychological Sciences
Influence of the COMT *Val158Met polymorphism in set-shifting ability and emotion processing during Cyberball*

112 **Anna Wise, Brian Smith, Aaron Armelie, Douglas L. Delahanty,**
Psychological Sciences
Age moderates social support and mental health in LGB youth

113 **Kathryn Wissman, Katherine Rawson,** Psychological Sciences
The context shift account: Not an explanation for the fragility of interim test effect with text material

Poster Session 21
JUDGE(S): Suzy Campbell; Joe Clark

114 **Yu Lei,** Theater & Dance
Lighting design process for side show

115 **Kevin Leistner,** Theater & Dance
Designing nouvelles rencontres

116* **Andy Martinez,** Anthropology
"Take down my old violin, play it all you please": The dispersal of an Appalachian murder ballad

117 **Kevin Alexander Wilson,** Music
The Eastern and Western schism: The dominating musical modes and forms of Eastern chant.

Poster Session 22
JUDGE(S): Dr. Hai Q. Dinh;
Dr. Vic Perera, PhD

118 **Mark Bissler,** Mathematics
Character degree graphs of solvable groups

119 **Isaac DeFrain,** Mathematics
Chebyshev polynomials on compact sets in the complex plane

120 **Ian Hogan,** Mathematics
The Brauer Complex and decomposition numbers of Sp(4,q) in defining characteristic

121 **Pablo Jimenez-Rodriguez, Richard Aron,** Mathematics
Interpolation of compact analytic mappings by the techniques of M. Cwikel and N. J. Kalton

122 **Mykhailo Kuian, Lothar Reichel, Sergij Shiyanovskii,** Mathematics
Sensitivity analysis of measuring systems with control parameters

123 **Mona Matar,** Mathematics
Determining the edges with high traffic in a network using matrix functions

124 **Casey Wynn,** Mathematics
Supercharacter theories of semiextraspecial p-groups and Frobenius groups

Poster Session 23
JUDGE(S): Dr. Alexa L. Sandmann;
Sonali S. Kudva

125 **Andrew Fogle,** Visual Communication Design
Strategies for graphic design aimed at the multiple sclerosis community: The development of the inclusion framework to assist in design thinking and visual communication artifacts

126 **Jordan A. Kauffman, Hamidreza Sohrabi,**
Visual Communication Design
Community curation: A participatory curation experience for art museum attenders that helps museum staff learn what people want to see from their non-displayed collection.

127 **Zuzana Kubisova,**
Visual Communication Design
How might cardboard toys be used to deter children from accessing, using digital technologies?

* This poster is nominated for the President's Award (p. 25) and should not be judged by the judges in session 17

128 **Cassandra Reese,**
Visual Communication Design
Mindful design: An investigation into how mindfulness-based design facilitates mindful user experiences

129 **Jennifer Rice, Cindy Kristof,**
Library & Information Science
Selling the stream: Getting the word out on digital media

Poster Session 24
JUDGE(S): F. William Lucak;
Dr. Brett Tippey

130 **Brigid Callaghan,**
Architecture & Environmental Design
Developing an alternative construction method for Arctic Canada: 3D printing concrete panels

131 **Brigid Callaghan,**
Architecture & Environmental Design
Testing and analyzing resistance properties of 3D printing materials using a hot box

132 **Christian Ford, Bill Lucak,**
Architecture & Environmental Design
Applications for user-responsive tracking surfaces using Arduino programming and communicating sensor systems

133 **Christian Ford, Adil Sharag-Eldin,**
Architecture & Environmental Design
Familial structure and consumer transiency of rural migrants in urban China

134 **Tyler Middendorf,**
Architecture & Environmental Design
Urban complexity and bodies of networks

135 **Brandi Miller,**
Architecture & Environmental Design
Arduino: Applied force with movement

Poster Session 25
JUDGE(S): Dr. Ji Young Cho

136 **Abby Baker, Adil Sharah-Eldin,**
Architecture & Environmental Design
The climatic effects of rapid urban expansion in Shanghai, China: A comparative analysis of the urban heat island condition as it pertains to structural density

137 **Eleanor Hertzfeld,**
Architecture & Environmental Design
Urban heat islands and the vegetative waterfront

138 **Dana Libert, Adil Sharag-Eldin,**
Architecture & Environmental Design
Light and safety in the urban environment

139 **Benjamin Punturi,**
Architecture & Environmental Design
Urban slum typology: A guideline for temporary urban shelters

140 **James Skimin, Adil Sharag-Eldin,**
Architecture & Environmental Design
Designing the small to be strong: The relationship between population density and urban resilience

Poster Session 26
JUDGE(S): Dr. Yaorong Zheng;
Dr. Vincent J. Hetherington, DPM

141 **Asaad Aladlaan, Tariq M. Haqqi, Fayez Safadi,** Biomedical Science
*A novel role of osteoactivin/*GPNMB *in osteoarthritic articular cartilage*

142 **Nazar Hussein, Thomas Mbimba, Fayez Safadi,** Biomedical Science
Role of TRAPPC9 *in protein trafficking in osteoclasts*

143 **Fatima Jaber, Gregory R. Sondag, Mohammad Y. Ansari, Fayez F. Safadi,** Biomedical Science
*Osteoactivin/*LC3 *interaction regulates autophagy in osteoblasts*

144 **Nicole Siegel, Christopher Vinyard, Matthew Ravosa,** Biomedical Science
Functional scaling trends in the trabecular architecture of the mandibular condyle of Strepsirrhine primates.

Poster Session 27
JUDGE(S): Dr. Varun Kumar;
Dr. Fayed F. Safadi, PhD

145 **Binaya Adhikari, Andrea Case, Christina Caruso,** Biological Science
*Discordant patterns of cytoplasmic genetic variation in a native flowering plant (*Lobelia siphilitica*, Campanulaceae)*

146 **Leighannah Akins, Laura Leff,** Biological Science
Bacteria from Lake Erie induce aggregation of toxic and non-toxic Microcystis aeruginosa

147 **Dulci Avouris, Joseph Ortiz, Kyle Carey,** Geology
Keeping an eye on Lake Erie: Identifying color-producing agents using derivative spectroscopy

148 **Amber Hill,** Geography
Using conventional and social media to evaluate expert and public perceptions of risk during the toxic algae outbreak in Lake Erie

149 **Anjali Krishnan, Xiaozhen Mou,** Biological Science
Isolation and characterization of microcystin degrading bacteria from Lake Erie

150* **Matt Mackey, Mark W. Kershner,** Biological Science
Analysis of diversity and structure of a Lake Erie coastal fish community

Poster Session 28
JUDGE(S): Insook Kim, PhD

151 **Bushra Aldosari, Christopher Was,** Lifespan Development & Educational Science
The effect of word pair directionality on Arabic students learning English as a second language to learning a second language for Arabic speakers: Can word pair directionality make a difference?

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* This poster is nominated for the President's Award (p. 25) and should not be judged by the judges in session 27.

152 **Abeer Alsaeed,**
Modern & Classical Language Studies
The impact of Tatweer program on English as a foreign language (EFL) teachers' professional development in Saudi Arabia in general education

153 **Tim Meyers,** Foundations, Leadership, & Administration
The relationship between socioeconomic Status (SES) and the National Council Licensure Examination for Registered Nurses: Comparing SES indicators in medication and moderated logistic regression.

154* **Shabnam Moini Chaghervand,** English
Effects of background knowledge and cultural familiarity of students in ESL reading classroom

155 **Neete Saha,** Foundations, Leadership, & Administration
International students' experiences with academic advising at a mid-western public research university

156* **Mengjiao Wu, Nadeen Katz, Sayuri Minakuchi,** Lifespan Development & Educational Science
Application of apology strategies between Chinese and Arabic ESL speakers

Poster Session 29
JUDGE(S): Kevin D. Wolfgang, Lisa A. Valendza, MA

157 **Maya Brown,** Music
Women in Capoeira: History and performance

158 **Kristin Coen-Mishlan,** Music
A place on the podium: Sociological factors influencing female band directors and their practice

159 **Robert McKinney,** Lifespan Development & Educational Science
The role of religion among gay male individuals

160 **Emma Peterson,** Fashion
Hazards, negligence, and abuse in the apparel manufacturing industry: Labor conditions from 1910-2015

161 **Ryan Tingler, Ilia Otero-Cruz, Jose Garcia-Fragoso, Carlos Rodríguez-Díaz,** Public Health
Experiences of discrimination and priorities of well-being among a sample of lesbian, gay, bisexual, trans, and queer (LGBTQ) individuals attending the 2015 Pride Parade in San Juan, Puerto Rico.

* These posters are nominated for the President's Award (p. 25) and should not be judged by the judges in session 28.

Poster Session 30
JUDGE(S): Pamela R. Mitchell, PhD

162 **Jeannette Iskander, Kara Monnin, Beth Wildman,**
Psychological Sciences
Examining the association between anxiety, daily activity adherence, and responsibilities: Differences between adolescents with SCD and healthy controls

163 **Kimberly Kobzowicz, Leen Nahouli,**
Health Science
Audiology without borders

164 **Brian Smith,**
Psychological Sciences
A multiple mediator model of PTSD symptoms and physical health complaints: The unique contributions of sleep quality and anxiety sensitivity

165 **Fawn Walter, Ryan Lackner, Joel W. Hughes,**
Psychological Sciences
Self-compassion predicts better supervisor evaluations in university faculty and staff

Poster Session 31
JUDGE(S): Dr. David Pereplyotchik

166 **Vinicius Carmello, Scott Sheridan, João Lima Sant'Anna Neto,**
Geography
Analyzing the effect of rainfall variability on soybean crop yield in northwest Ohio

167 **Chenjian Fu, Christopher Rowan,**
Geology
Measuring similarity between two spatiotemporal trajectories on spherical surface: Application to paleomagnetic apparent polar wander paths

168 **Andrew Kramer,** Anthropology
The tale teeth tell: Dental calculus and paleodietary reconstruction at a Middle Woodland fishing village in northwestern Ohio

169 **Kalpani Ratnayake, P.N. Ranasinghe, Joseph D. Ortiz, A.L.T Hewawasam,** Geology
Exploring late Quaternary monsoon variability using marine and terrestrial sedimentary archives of Sri Lanka

170 **Angelia Werner,** Anthropology
North America's first invention: The Clovis projectile point

Poster Session 32
JUDGE(S): Dr. Barry D. Dunietz

171 **Abdullah Alalawi,**
Applied Engineering, Sustainability, & Technology,
Electron beam technology

172 **Sreenivasa Reddy, Ambati Karthik Rayala, Tinghe Xu,** Applied Engineering, Sustainability, & Technology,
Hybrid solar-fuel cell power system

173 **Mona Mirheydari, Elizabeth K. Mann, Edgar E. Kooijman,** Physics
Modeling amphipathic alpha-helix bundle of a protein binding to an aqueous-glycerophospholipid-oil interface

President's Award Nominees

These nominees were selected because of their excellent abstracts, and they will be judged by a delegation of faculty from the Office of the President.

53 **Karuna Ramcharran,** Public Health,
Emergency preparedness plan for infectious disease outbreaks for Portage County

64 **Erica Stahl,** Nursing,
Transitioning to a validated behavioral pain scale for critically ill adult patients

79 **Marissa Gastelle, Aimee Hammer, Josefina Grau,**
Psychological Sciences
Latina adolescent mothers' parenting attitude: Relations to parenting stress

88 **Jennifer Cooks, Mansi H. Mehta, Kate J. Zelic, Jeffrey A. Ciesla,**
Psychological Sciences
Examining perfectionism and changes in affect and rumination

116 **Andy Martinez,** Anthropology
"Take down my old violin, play it all you please": The dispersal of an Appalachian murder ballad

150 **Matt Mackey, Mark W. Kershner,**
Biological Science
Analysis of diversity and structure of a Lake Erie coastal fish community

154 **Shabnam Moini Chaghervand,**
English
Effects of background knowledge and cultural familiarity of students in ESL reading classroom

156 **Mengjiao Wu, Nadeen Katz, Sayuri Minakuchi,** Lifespan Development & Educational Science
Application of apology strategies between Chinese and Arabic L1 speakers

Presentations from the Undergraduate Research Symposium (The Nest)

ASarah Ahlswede, Emily Jarosz, Taylor Ashton, Madison DeLong, Claire Tilley, & Laura Wester, Dance
Expanding Minds Through International Collaborations in Dance

Melissa S. Bleininger, Senior, Sociology
An examination of self-control and the family structure

Jessica E. Cooke, Senior, Psychology
Trait rumination predicts word use during negative mood induction

Angela C. Ehrich, Senior, Psychology
The Effects of Romantic Partner
Instrumentality and goal progress

Alexandrea L. Garrett, Senior, Integrated Life Sciences, **Madeline M. Goosmann,** Senior, Integrated Life Sciences
Secondary analysis of binge drinking behaviors in a drinking population

Katherine M. Greskovich, Freshman, Biochemistry
Investigating group 3 metal hydroxide nanoparticles for targeted cancer therapy

Nathan Mudrak, Freshman, Business Management Technology
Simple image normalization dramatically improves transport-of-intensity (TIE)-derived phase images

Jessica L. Mulvany, Senior, Psychology
Initial validation of a questionnaire to assess portion size knowledge

Victoria Shaker, Junior, Biochemistry
Transgenerational epigenetic effects of cocaine on circadian behavior and cocaine reward

Roger J. Sowick, Senior, Political Science
Reunification and rising inequality in Germany

Rajaa Thalluri, Senior, Biology and Psychology
Strategy use and math anxiety in fractions number line estimation and magnitude comparison

Brandon T. Whitecotton, Junior, Biology
Investigation of folding thermodynamics and kinetics of cobalamin riboswitch

Joseph J. Wislocki, Sophomore, Geology
Studying convergent deformation with an analog sandbox model

A World of Objects: A Popup Exhibit of Graduate Research (Ballroom Balcony)

Organized by Mitch Sumner and Kaitlyn Gutshall, this exhibit will only last the duration of the Symposium and will highlight the different and varied types of research being conducted by the following KSU graduate students in an alternative and exciting format:

Aidan Ruth, Biomedical Sciences

Aliaa Maar, Applied Engineering, Sustainability & Technology

Angelia Werner, Anthropology

Brooke L. Long, Sociology

Chenjian Fu, Geology

Forrest Paige, Architecture & Environmental Design

Jordan Kauffman & Hamidreza Sohrabi, Visual Communication Design

Nicki Siegel, Biomedical Sciences

Taissir Nouri, Biological Sciences

ORAL PRESENTATIONS II

Apps & Social Media

Room 320
JUDGE(S): Dr. Xinyue Ye;
Prof. Jonathan I. Maletic, PhD

11:35 **Mehdi Ghayoumi, Arvind K. Bansal,** Computer Science
Human emotion recognition using deep learning

11:50 **Adiyana Sharag-Eldin, Xinyue Ye, Brian Spitzberg,** Geography
Analyzing of geolocated Twitter as a proxy to examine public opinion on fracking

12:05 **Snigdha Snigdha,** Computer Science
Mom: An app to help students transition successfully from home to dorm

12:20 **Alan Walker, Erica Lull, Shelby Muter, Sarah Holzer,** Visual Communication Design
Convoy: Travel crisis management mobile application

12:35 **Mohammed Mubeen Raoof,** Digital Science
Wireless sensor network security

Human Behavior

Room 306B
JUDGE(S): Dr. Kathryn Kerns;
Dr. Jon A. Sefcek

11:35 **Kyle Henning,** Psychological Sciences
The disambiguation effect: Predicting the "right choice"

11:50 **William Kelvin,** Communication & Information
Quiet champions or energy-wasting nags? Interpersonal advocacy of pro-environmental behavior in the workplace

12:05 **Marc Majers,** Library & Information Science
Improving usability research studies

12:20 **Jeremy Slocum, William E. Merriman,** Psychological Sciences
The novel name disambiguation effect: Familiar name retrieval not required

12:35 **Joshua Testa, Daniel Hawes,** Political Science
Shocking performance: The effects of anticipated and unanticipated shocks on organizational performance

Learning I

Room 306C
JUDGE(S): Dr. Elena Novak, PhD;
Dr. Kelly E. Cichy

11:35 **Naser Al Madi,** Computer Science
Is learning by reading a book better than watching a movie? A computational analysis of semantic concept network growth during text and multimedia comprehension

11:50 **Ahmed Alsaghiar,** Teaching, Learning, & Curriculum Studies
Using mentor texts to improve second language learners' writing skills

12:05 **Eren Cifci,** Economics
Effects of parental characteristics on child earning

12:15 **Colleen Dragovich, Eve Dalton, Rachael Todaro, Sebiha Balci, Bradley J. Morris,** Lifespan Development & Educational Science
Are badges or goals more relevant to online learning?

12:35 **Caleb Heller,**
Architecture & Environmental Design
Designing for human performance: The significance of daylighting in Ohio schools

Learning II

Room 322
JUDGE(S): Dr. Sloane R. Burgess; Dr. Greg E. Blundell

11:35 **Suleyman Akcil,** Lifespan Development & Educational Science
Cyberbullying is real *and we need to talk about it* now

11:50 **Fatemeh Dehghan Manshadi,**
Teaching, Learning, & Curriculum Studies,
School bullying

12:05 **Haylee DeLuca, Manfred van Dulmen,** Psychological Sciences
Peer competence during childhood and adolescence in at-risk populations

12:20 **Beatrice Olesko,** Music
Minding the gap: Perspectives on connecting students' school and non-school music experiences in elementary general music classrooms

Liquid Crystals I

Room 309
JUDGE(S): Dr. Ann C. Abraham, PhD

11:35 **Afsoon Jamali, Douglas Bryant, Achintya Bhowmik, Philip Bos,**
Liquid Crystal Institute
Design, fabrication and characterization of tunable liquid crystal lens for 3D/AR/VR applications

11:50 **Shokir Pardaev, Zeinab Parsouzi, James Gleeson, Samuel Sprunt,**
Physics
Layer thinning and dynamics in freely suspended thin films of smectic liquid crystals

12:05 **Zeinab Parsouzi, Shaikh Shamid, Shokir A. Pardaev, Samuel Sprunt,**
Physics
Dynamic light scattering studies in twist-bend nematic liquid crystal

12:20 **Andrii Varanytsia,**
Liquid Crystal Institute
Bistable and photoswitchable diffractive liquid crystal light shutter

12:35 **Junren Wang,**
Chemistry & Biochemistry
Liquid crystal/polymer core/sheath fibers produced by electrospinning and airbrushing

Liquid Crystals II

Room 315

JUDGE(S): Dr. Hanbin Mao; Dr. Antal Jakli

11:35 **Salma Begum, Sanjoy Paul,** Physics
Development and analysis a method to measure ionic concentration in nematic liquid crystals.

11:50 **Leah Bergquist, Torsten Hegmann,** Liquid Crystal Institute
Detecting chirality of L-glutathione functionalized gold nanoparticles using lyotropic chromonic liquid crystals

12:05 **Ayhan Duzgun,** Liquid Crystal Institute
Active Brownian particles near straight or curved walls: Pressure and boundary layers

12:20 **Kun Gao, Philip Bos,** Liquid Crystal Institute
A non-mechanical zoom lens for infrared imaging based on Pancharatnam phase

12:35 **Colin McGinty, Valerie Finnemeyer, John West, Phil Bos,** Physics
The effect of azodye alignment layer thickness on activation energy, order parameter, anchoring energy, and stability

Literary Analyses

Room 304

JUDGE(S): Dean Jim Bracken, PhD

11:35 **Leanna Lostoski,** English
The Ecological Passage of Time in James Joyce's Ulysses

11:50 **Emily Oliver,** English
The exchanges of food and power in Jane Austen's Emma

12:05 **Shazia Nasir,** English
Locating nation states in the inner places of the modernist novel

Literature & Film

Room 313

JUDGE(S): Dr. Ralph Lorenz; Suzy Campbell

11:35 **Danielle Hart,** English
"How is Cecil going to give birth?": Non-normative bodies and male pregnancy in Welcome to Night Vale *slash fiction*

11:50 **William Kiskowski,** Geography
Roma characterizations in popular film: Geographic exclusion in fiction

12:05 **Kevin Leistner,** Theater & Dance
The romanticism of Christopher Marlowe's "The Tragical History of the Life and Death of Doctor Faustus"

12:20 **Bahareh Gharehgozlou,** Modern & Classical Language Studies
Mapping Persian into English literary translation flows

Mathematics

Room 314

JUDGE(S): Dr. Oana Mocioalca

11:35 **Lopamudra Chakravarty, Jing Li,** Mathematics
A hybrid domain decomposition algorithm for a symmetric problem

11:50 **Francisco Javier, Falco Benavent Vassili Nestoridis,** Mathematics
Approximation by rational functions

12:05 **Anthony Harrison,** Mathematics
The lattice size of convex polytopes: Progress and problems.

12:20 **Lisa Hendrixson,** Mathematics
Products of characters and derived lengths of groups

12:35 **Sergii Myroshnychenko,** Mathematics
On a functional equation related to pairs of hedgehogs with congruent projections

Online Discourse

Room 316
JUDGE(S): Melissa M. Spohn;
Lala Hajibayova

11:35 **Catherine Hessick, Jennifer Wiggins Johnson, Pamela A. Grimm,** Business Admininistration
Sharing a laugh: The moderating role of need for humor on the sharing of online advertisements

11:50 **Virginia Little, Timothy Rose,** Sociology
Tackling problems of participation in online discussion boards

12:05 **Alison Rossi, Kim Hahn,** Fashion
Key elements for sustaining and enhancing influence for fashion bloggers

12:20 **Nancy Weissman,** Lifespan Development & Educational Science
Evaluating the effectiveness of a synchronous online environment in establishing social, cognitive and teaching presence: The process and product of coding chat transcripts

Philosophy

Room 302
JUDGE(S): Dr. Frank X. Ryan;
Dr. Kim Garchar

11:35 **Brian Bieganski,** Philosophy
Can video games be art?

11:50 **Ryan Marx,** Philosophy
Jus ad vim: Creating space between law enforcement and war

12:05 **Dylan Scott,** Philosophy
On normative limitations of religious and self-knowledge in covenant epistemology

12:20 **Kristin Weis,** Philosophy
Art as negation: A defense of conceptual art as art

Physical Science

Room 321
JUDGE(S): Lewis L. Sharpnack

11:35 **Arosha Dassanayake, Chamila Gunathilake, Mietek Jaroniec,** Chemistry & Biochemistry
Efficient uranium (VI) sequestration under seawater conditions using novel organo functionalized mesoporous silica

11:50 **Ammar Kirmani, Khandker Quader, Maxim Dzero,** Physics
Population imbalanced p-wave superfluid in trap

12:05 **Lin Li, Miroslaw Salamonczyk,** Chemistry & Biochemistry
Dual modulated homochiral helical nanofilament phase

12:20 **Yi You, Sunil Badal, Jacob Shelley,** Chemistry & Biochemistry
Automatic analyte ion recognition and background removal for ambient mass spectrometry data based on cross correlation

12:35 **Yi You, Sunil Badal, Jacob Shelley,** Chemistry & Biochemistry
Cross correlation as a tool for automated, high-throughput mass-spectral analysis of complex samples

Race & Racial Biases

Room 318
JUDGE(S): Dr. Susan Roxburgh, PhD; Andrea B. Szell, MA

11:35 **Andria Blackwood,** Geography
Exploring the relationship between race, place, self-efficacy, and community engagement

11:50 **Zach Humphries,** Journalism & Mass Communication
How athletes of race are portrayed in the media: The portrayal of Latino and Asian baseball players on ESPN: Sunday Night Baseball

12:05 **Dana Pugh, Martale Davis,** Psychological Sciences
A quantitative analysis of the acting white accusation

12:20 **Alicia Robinson,** Sociology
Academically successful African American Women: An examination of motivation and contextual influences

Refugees & Resettlement

Room 319
JUDGE(S): Dr. Jan D. Yoder; Dr. Ratchneewan Ross, PhD

11:35 **Anuj Gurung,** Political Science
Anatomy of refugee resettlement: Experiences of Bhutanese refugees in Akron

11:50 **Diana Kingsbury, Sheryl Chatfield,** Public Health
A metasummary of published qualitative research on pregnancy and resettlement among refugee women

12:05 **Sunita Shakya, Diana Kingsbury, Madhav Bhatta,** Public Health
Assessing potential risks for childhood failure to thrive (FTT) among Bhutanese refugee mothers in the United States

12:20 **Daniel Socha,** Journalism & Mass Communication
Rationalizing resettlement: Construction of the ideal refugee in cultural orientation resources

12:35 **Kathryn Hannum,** Geography
Pious Policy: Cultural preservation and regional convergence in the EU

Social Science of Safety

Room 317
JUDGE(S): Doug Delahanty;
Dr. Wendy Umberger, PhD

11:35 **Jennifer Burrell,** Geography
Mapping environmental and societal factors as proxies to determine the status of neighborhood recovery in Youngstown, Ohio

11:50 **Brooke Long,** Sociology
What if my neighbor is a criminal? The "Love Thy Neighbor Hypothesis" and pro-social behavior

12:05 **Meghan Novisky,** Sociology
Cultural health capital and chronic disease management among older inmates

12:20 **Melissa Phillips,** Geography
Lightning and Hurricane Safety Knowledge and the Effects of Education Modes on Elementary School Children

12:35 **Kristen Traynor,** Political Science
Frame by frame: The framing of prisoner treatment at Guantánamo Bay during the 2005-2006 hunger strike

Trauma, Anxiety, & Depression

Room 308
JUDGE(S): Dr. Vinay K. Cheruvu, PhD;
Dr. Tara C. Smith

11:35 **Jenna Brinker, Vinay Cheruvu,** Public Health
Association between social and emotional support and psychological distress among individuals with adverse childhood experiences

11:50 **Emily Dames, Dianne Kerr,** Public Health
Hormonal treatment, depression, and suicide in transgender women

12:05 **Christi Gross,** Sociology
Maternal age and postpartum depression during the transition to parenthood

12:20 **Shawn Starcher,** Journalism & Mass Communication
Depression: Keeping it in the family

12:35 **Kaela Stuart, Kathryn Kerns,** Psychological Sciences
Family processes in child anxiety: The long-term impact of fathers and mothers

Awards Luncheon: 1:00pm – 2:30pm, Ballroom

Keynote Speaker: Paul E. DiCorleto, PhD

Dr. DiCorleto was named Vice President for Research and Sponsored Programs and Professor of Biological Sciences at Kent State University in August, 2015. He was previously Sherwin-Page Chair of the Cleveland Clinic Lerner Research Institute and Chair of the Department of Molecular Medicine at Case Western Reserve University. He was also Principal Investigator and is now Co-Principal Investigator, of the NIH Center for Accelerated Innovations-Cleveland Clinic – one of three such Centers nationally.

Dr. DiCorleto received his undergraduate training in chemistry at Rensselaer Polytechnic Institute and his doctorate in biochemistry from Cornell University. Dr. DiCorleto is a vascular cell biologist with extensive experience in the role of endothelial cell signaling pathways and gene expression in atherosclerosis and other inflammatory diseases. He was with the Cleveland Clinic for over 30 years, having served as an Associate Chief of Staff and a member of the Clinic's Board of Governors and Board of Trustees.

Dr. DiCorleto has published more than 125 peer-reviewed articles, invited reviews, and book chapters and has maintained continuous support from the NIH for over 30 years. Dr. DiCorleto has chaired multiple NIH and American Heart Association review panels, as well as several national conferences on research into heart and vascular disease. He has served as President of the North American Vascular Biology Organization, and is currently a member of its Scientific Advisory Board. He has been a long-time member of the Association of American Medical Colleges' Advisory Panel on Research and was elected a Fellow of the American Association for the Advancement of Science in 2007. Dr. DiCorleto has served as a consultant and Board member of multiple companies and has served on the Clinic's Commercialization Council (internal focus) and Innovation Advisory Board (external focus) for many years. He is on the Board of the Clinic's Global Cardiovascular Innovation Center. He is also a Director of Shield Biotech, Inc. which seeks to commercialize the first preventative vaccine for breast cancer.

Dr. DiCorleto is also a member of the Board of Directors of the Holden Arboretum/Cleveland Botanical Garden and of the Cleveland Water Alliance.

Oral Presentations, Listed Alphabetically by First Author

Abid, Nahla et al.

Computer Science, Presenter Location/Time

During the evolution of large software systems, developers spend a great deal of time trying to locate and understand the parts of the system that are related to their current task. Documentations (aka comments) are found to be critical in assisting developers to understand code faster and more deeply. Unfortunately, comments are oftentimes outdated or incomplete due to lack of either proper maintenance or adherence to proper documentation standards. To overcome this issue, this research presents an approach to automatically generate natural language documentation summaries for C++ methods. The approach uses prior work on stereotyping methods along with the source code analysis framework srcML. First, each method is automatically assigned a stereotype(s) based on static analysis and a set of heuristics. Then, the approach uses the stereotype information, static analysis, and predefined templates to generate a natural-language documentation for each method. This documentation is automatically added to the code base as a comment for each method. The predefined templates are designed to produce a generic documentation for specific method stereotypes. A study involving 75 programmers revealed that the generated summaries are accurate, do not include unnecessary information, and do a reasonable job describing what the method does.

Adodo, Sophia

Fashion, Presenter Location/Time

The Bolobedu tribe of North Sotho, South Africa initiate their daughters into womanhood by the presentation of an thitho. A thitho is an apron-like garment that is worn by the “common” population of girls and was made of white beads backed with a cotton fabric. The ornate beaded garments are handed down to all the daughters in the family and given to them by their mothers. A more elaborate version of the thito, is the mbebana which is worn by the daughters of headmen or chiefs (royalty). The mbebana is an apron of multi-colored beads in ornate triangular patterns. These mbebanas are higher quality in that they are backed by animal hide instead of cotton. Royal Mbebana is a garment inspired by the thitho that the daughters of royalty would receive, and the research is centered around replicating the beaded

Adodo, Sophia

Fashion, Presenter Location/Time

The fashion runway is one of the most innovative arenas within fashion. Trends emerge and are a focal point for designers, fashion industry members and society as a whole. New York's Fashion Week presents designers that are the most sought after, and annually in fall and spring these brands present their fashions on models carefully selected according to their preference. From a fashion perspective, color is one of the most spoken about topics on the runway. By stepping outside of the fashion perspective and utilizing critical race theory, this study aims to analyze the fashion runway of 10 particular designers. This study takes a critical race perspective and introduces a lens in which a content analysis is performed to explore how race is presented by 5 non-white and 5 white designers during fall and spring of 2011 to 2015. Within fashion, this perspective can open up many avenues for improvement and inclusive measures within the industry.

Akcil, Suleyman

Lifespan Development & Educational Science, Presenter Location/Time

You have probably started to see cyberbullying cases in the media now more than ever. It is mostly because of the increasing number of cases that ended with the cyberbully victims completing suicide. It is a real and growing problem not only in the United States but all over the world. The focus for this presentation is to bring awareness to this problem. The presentation is expected to enhance participants' knowledge and insight on the topic through open discussion and reflection.

Al Madi, Naser et al.

Computer Science, Presenter Location/Time

In this paper we present an online tool for visualizing Hypergraphs. A hypergraph (HG) is a generalization of graphs in which an edge can connect any number of vertices. With the widespread of HGs and their applications, the demand for a flexible tool for visualizing HGs has increased.

Nonetheless, an effective HG visualization tool does not exist yet, to the best knowledge of the authors. This is due to the complexity of the solution, and to the inability of current solutions to match real-life uses. Our solution combines two of the popular techniques to achieve a correct, interactive, and appealing visualization. The first is force-directed drawing of vertices, and the second is convex hull drawing of hyperedges (HE). This combination gives us a simple way to draw and visualize HGs, and it gives the users the flexibility to modify our tool to match their needs.

Al Madi, Naser

Computer Science, Presenter Location/Time

In this paper we present a study that compares the semantic networks of text comprehension and multimedia comprehension. This comparison is based on the concept learning (CL) model of comprehension. The model mimics the comprehension processes of the human brain. We conducted a human study for the purpose of revealing the semantic variations in comprehending text and comprehending audio-video multimedia. Each participant in the study created a concept semantic network of what they understand, and these networks were processed by the CL-model. The parameters of the CL-model give us insights into the collective learning of the two groups as well as personal performance of each individual. The model metrics are analyzed to reveal quantitative and qualitative differences. The combination of computational modeling of comprehension with semantic networks analysis, makes us able to measure comprehension performance of reader and watchers in a way that was not possible before. Some of the important results that we found indicate that textual media provided easier integration of newly learned concepts with background information. At the same time, we found that recognizing an overwhelming number of concepts is easier with audio-video multimedia. The presented results are important for media creators and educators, as well as artificial intelligence scientists who aim at creating systems that resemble human learning. Similar to the way biology inspired statistical learning algorithms, studying cognitive tasks, such as comprehension, can help us understand human behavior and build systems that imitate human learning.

Al Musaiteer, Suliman

Foundations, Leadership, & Administration, Presenter Location/Time

The purpose of this study was to inquire into Saudi students' experience of intercultural communication in the U.S. Specifically, the study focused on factors that encourage and discourage Saudi students' communication with American people. The researcher utilized the semi-structured interview to collect the data from three Saudi male students. The theoretical framework employed in this study was the Anxiety-Uncertainty Management (AUM) theory introduced by William B. Gudykunst. The study indicated that Saudi students were more engaged in interacting with American people when they benefited from such interaction. The study also showed that Saudi students were more motivated to communicate with American people who respected their culture and religion. At the same time, Saudi students were disinclined to engage in inter-cultural communication when they felt that their identity was threatened. Moreover, Saudi students felt discouraged when their communication with Americans distracted them from their priorities and goals. In addition, the study revealed that the negative stereotypes of both Saudi and American people blocked the interaction between them.

Alalawi, Abdullah

Applied Engineering, Sustainability, & Technology, Presenter Location/Time

Electron beam technology is one of the most successfully used commercial techniques for industrial purposes such as insulating cables, printing, welding and tubing. Unlike other technologies, the Ebeam can change the molecular composition of polymers and other materials. The technology wins a competitive edge over other techniques because it is considerably cost effective and the results achieved are highly precise. This is the reason that electron beam technology has become immensely popular in medical industry, where it is used for sterilizing equipments. The technology is also used as the basic method for contamination control in toiletries and cosmetics. In comparison to other techniques, Electron beam technology can deliver results within minutes due to extremely high irradiating speed. The extremely small exposure time of Electron beam technology allows industries to enjoy the following benefits: There are no harmful residuals or byproducts. Materials exposed to electron beam don't go through any color change. Electron beam doesn't make polymers brittle. Materials are not subjected to any oxidative harm. The turnaround duration is very small. The best thing about this technology is that it can be used for a wide range of purposes- from modifying

polymers to chain scission; the Electron beam technology can be used for everything. When a material is exposed to highly focused electron beam, highly energized electrons penetrate through the targeted material with full force. These electrons transfer their energy to the molecules present within the target. This method allows lose electrons present in molecules to leave their orbit and move as free radicals hus generating a chemical change in the targeted material. When used for sterilization purpose, the ability of electron beam to penetrate into microscopic organisms is utilized to break DNA chains. This procedure also seizes the growth of microscopic organisms, thus making E-beam processing the perfect technology for sterilization.

Alrasheed, Hend

Computer Science, Presenter Location/Time

In graph theory, the delta-hyperbolicity is a global property that shows how close a given graph's structure is to the tree's structure metrically. It embeds multiple properties that facilitate solving several problems that found to be hard in the general graph form. Interestingly, not only that Î´-hyperbolicity provides an idea about the structure of the graph, but also it explains how information navigates throughout the network. Therefore, delta-hyperbolicity has several applications in diverse applied fields. In this work, we focus on analyzing and exploiting structural properties of hyperbolic networks for different applications. First, we algorithmically analyze the delta-hyperbolicity property and we exploit it to partition a graph into core and periphery parts. To achieve this, we formalize the notion of the eccentricity layering of a graph and employ it to introduce a new property that we find intrinsic to hyperbolic graphs: the eccentricity-based bending property. Moreover, we investigate the essence of the bending in shortest paths by studying its relationship to the distance between vertex pairs. Then we investigate another structural property of graphs that depends on the unimodality of the eccentricity function. We also analyze using this property to identify the core vertices in a given network.

Alsaedi, Rusul et al.

Computer Science, Presenter Location/Time

Given a set of n >= 1 autonomous, anonymous, history-oblivious, and silent mobile robots operating following Look-Compute-Move cycles in the Euclidean plane, we consider the fundamental problem of providing mutual visibility for them, i.e., the robots must reposition themselves to reach a configuration in night time without collisions where they all see each other. This problem arises under obstructed visibility where a robot can not see other robot if there lies a third robot in the line segment connecting their positions. This problem is important since it provides a basis to solve many other problems under obstructed visibility, and it has applications in scenarios including coverage, intruder detection, etc. The literature on this problem assumed that the robots are dimensionless points, i.e., they occupy no space. However, this assumption can be easily refuted. For example, in reality, robots are not dimensionless but have a physical extent. Therefore, in this thesis, we initiate the study of the mutual visibility problem for the robots with extents. We address this problem in the recently proposed robots with lights model each robot is equipped with an externally visible persistent light that can assume colors from a fixed set of colors which corresponds to the classical oblivious robots model when the number of colors in the set is 1. In particular, we will develop a deterministic algorithm that provides mutual visibility for robots with extents of unit disc size avoiding collisions. We will also analyze it for the number of colors it uses to successfully solve the problem and its runtime.

Alsaghiar, Ahmed

Teaching, Learning, & Curriculum, Presenter Location/Time

Writing in another language is a complex task because it requires high level skills such as planning and organizing and low level skills such as spelling, word choices, and punctuation (Richards & Renandya, 2002).Using Mentor texts is an effective method to teach authentic writing ideas, techniques, and structures. Current textbooks teaching writing for second-language learners include several mentor texts model different writing skills and genres. However, the common suggested strategy to teach mentor texts in second language focuses on structure and format and excludes meaning (e.g., five-paragraph essay). As a result, some learners copy those examples and lose their writing voices when writing their own pieces. They may fail to recognize the connection between language structure and meaning, especially because they write in second language. Exposing students to a number of mentor texts is not sufficient to teach them writing. Students need to analyze, compare , and judge mentor

texts before writing their own pieces. Therefore, this paper aims to demonstrate how mentor texts are used based on analyzing and comparing texts with highly focus on the connection between meaning, structure and format. It is expected that using mentor texts in this way improve second language writing skills. References: Richards, J.C. & Renandya, W.A. (Eds.). (2002). Methodology in Language Teaching: An anthology of current practice. NY, NY: Cambridge UP. ISBN 978-0-521-00440-4

Badal, Sunil et al.

Chemistry & Biochemistry, Presenter Location/Time

In recent years, several plasma-based ambient desorption/ionization (ADI) sources for mass spectrometry (MS) were introduced which enabled direct analysis of sample from their native environment with minimal pretreatment. While most plasma-based ADI sources utilize pure, atomic discharge gases, here, we aim to explore changes in discharge processes and ionization chemistry with the addition of molecular gases to the helium discharge of a flowing atmospheric pressure afterglow (FAPA) source. In one case, it was found that the addition of oxygen (<1.0%, v/v) increased the abundance of reagent protonated water clusters by five times. Correspondingly, an increase in protonated analyte signal was also observed for small polar analytes such as methanol and acetone. However, ionization of analytes containing aromatic constituents exhibit significant chemical modification. When these species are desorbed/ionized with a He:O2-FAPA, the dominant detected ion was consistently (M+3)+ instead of protonated or molecular ions (MH+ or M+, respectively) which were produced with a He-FAPA. Exact mass measurements and isotope labelling studies revealed that the (M+3)+ ion corresponds to the formation of pyrylium-based species which was further confirmed by tandem MS of the (M+3)+ ion compared to that of a commercially available pyrylium salts.

Baranski, Michael et al.

Pyschological Sciences, Presenter Location/Time

Participants in four brief sessions of mindfulness meditation training performed better on several measures of executive functions than control group participants following training.

Bartram, Sarah

Art, Presenter Location/Time

French Sculptor Auguste Rodin used non-finito as an artistic device throughout the entirety of his career. His works were often labeled incomplete or fragmented by critics who would have preferred the artist adhere to the guidelines set forth by the French Academy. Non-finito is Italian for not finished, or unfinished. As it applies to Rodin and other artists of the 19th and early 20th century it can be used in a way to describe how they did not bring their work to an academic finish. The phrase non-finito is often associated with Rodin's sculpture as a means of describing the seemingly unfinished state of his sculptures. Furthermore, non-finito is often used as a definitive descriptive device for only one aspect of Rodin's finished work, depending on the source""meaning the term non-finito is often used interchangeably depending on the scholar's perspective. The aim of my research is to define non-finito as it relates to particular areas of Rodin's oeuvre by exploring how the meaning of non-finito changes throughout his work""specifically on the aspect of the fragment as it serves as a manifestation of non-finito through the sub-categories of the isolated body part, the amputated form, and assemblages.

Bebber, Michelle

Anthropology, Presenter Location/Time

A central question in archaeological ceramics involves the choices made by prehistoric potters when selecting materials for pottery manufacture. This research seeks to elucidate the nature of the various pottery tempers used in the Scioto River Valley during the past two millennia as evinced from their pottery manufacturing processes. Previous work in experimental ceramics has tested a variety of temper types, but has not fully evaluated all of the tempers unique to South Central Ohio. This project uses petrographic identification, sample replication, and mechanical tests to assess the whether physical properties offered by various tempers was the driving force of ceramic change in

prehistoric groups. This project consists of two phases 1) petrographic research and 2) mechanical properties testing. The research phase involves a detailed analysis of clay matrix and temper using polarized light microscopy. The second phase involves reproducing and testing the various temper combinations for overall mechanical strength and impact resistance, i.e. initial fracture, work-of-fracture, and thermal shock resistance. Key areas of interest include chert-tempered vessels from the Late Woodland period and limestone/shell tempered wares from the Late Prehistoric Period.

Begum, Salma et al.

Physics, Presenter Location/Time

Nematic liquid crystals (LCs) may play an important role in applications of organic electronic devices (OFETs, OLEDs, etc.). However, ionic conduction can limit the success of most applications. We have developed an electrical measuring technique to investigate the concentration of ionic impurities in LCs. We will address the limitaions of this technique and will discuss how to reduce the ionic impurities in LCs.

Bensaid, Mohsine

Teaching, Learning, & Curriculum, Presenter Location/Time

This presentation reports the findings of a self-study investigating how an ESL teacher's practice helped promote the learning autonomy of ESL students enrolled in a high-level reading/ writing course in a mid-sized, private, non-profit university in Ohio. The study focused mainly on strategies to promote learner autonomy in an ESL environment. While these strategies mainly aim at improving the students' reading and writing skills, they involve other facets of learning such as critical thinking, problem solving, and self-motivation.

Bergquist, Leah et al.

Liquid Crystal Institute, Presenter Location/Time

Chiral induction in liquid crystals (LCs) is one of the most sensitive methods for the detection of chirality. Previously, the nematic phase of thermotropic LCs was used to quantify nanoparticle (NP) chirality through its transfer to a surrounding medium. However, hydrated assemblies of nonamphiphilic lyotropic (chromonic) liquid crystals form a nematic phase with a separation of approximately 6 nm between stacks of molecules and the induction mechanism is not clearly understood. This project addresses the transfer of chirality between aggregate components and how nanoparticle chirality might influence these aqueous assemblies. Aqueous gold nanoparticles (Au NPs) were synthesized in the presence of the chiral ligand L-glutathione (GSH) and purified using ultracentrifugation concentrators with polyethersulfone (PES) membranes to produce particles of about 5.5 nm. Purity was verified with thin-layer chromatography and the optical properties of the Au NP were characterized with UV-vis spectrophotometry and thermal gravimetric analysis. The Au NP size was characterized with transmission electron microscopy. The ellipticity of the Au NP was obtained using circular dichroism spectroscopy. To investigate the chirality transfer, the Au NP was homogeneously dispersed in the nematic phase of disodium cromoglycate. Induced circular dichroism spectropolarimetry and polarized optical microscopy were used to study the induced chiral nematic phase.

Bieganski, Brian

Philosophy, Presenter Location/Time

In Aaron Smuts' 2005 paper, he argues that by any definition of art, if we conclude that media such as photography and film ought to be considered art, video games should consequently also be included in that definition. In my paper, I argue for Smuts' view of video games as a proper art medium, and strengthen his argument against possible objections to his view.

Birmingham, Lauren et al.

Public Health, Presenter Location/Time

Background: Frequent emergency department (ED) users are those who make four or more ED visits in a year. This study aimed to understand why frequent ED users present to the ED, what

barriers to care exist, and what service offerings may be helpful to these patients. Methods: We performed a prospective study of frequent ED users in an adult only urban level 1 trauma center. Participants were administered a structured survey. Results: Of 1,523 screened patients, 297 were identified as frequent ED users and 100 frequent ED users were enrolled. Most frequent ED users (61%) stated the primary reason for their visit was that their problem necessitated emergency care. Taking time away from work or family commitments to receive health care, and obtaining preventative care were the most commonly cited barriers to care (15% and 16%, respectively). Subjects stated that urgent care access (63%) and having a care manger (53%) would be most helpful.Conclusion: This survey of frequent ED users identified several opportunities to better serve them and thus potentially reduce overall health care costs. By understanding barriers to care from the frequent ED user perspective, health systems can potentially address unmet needs that prevent wellness in this population.

Blackwood, Andria

Geography, Presenter Location/Time

Albert Bandura's self efficacy theory states that an individual's belief in her capability to achieve a goal influences her behavior; allowing her to execute a chosen course of action to produce a desired outcome. Through in-depth face-to-face interviews with residents of two predominantly African American neighborhoods within the City of Cleveland, this research explores how individuals' self-described levels of efficacy combined with an attachment to place may influence commitment to community engagement. Preliminary qualitative analysis indicates that a strong belief in one's ability to achieve one's goals coupled with feelings of community pride and belonging can enable individuals to prevail over issues of race to produce a variety of positive outcomes for their neighborhoods.

Brallier, Lauren

Fashion, Presenter Location/Time

For those who have never experienced a 'crotch blowout,' it is a rip or tear that occurs in the groin of your pants due to friction or tension. A common occurrence within bicycle motocross, or BMX,

crotch blowouts are caused by wearing off-the-rack pants while riding. Though they meet the fashion requirements of BMX, pants purchased off-the-rack cannot withstand the functional demands of the sport. As a niche market, this case presents a unique opportunity, but it also identifies a larger problem. Based on the current market availability, it is clear that the apparel companies do not understand the needs of the BMX consumers for which they are designing. Therefore, this research seeks to develop and formulate a better design process by implementing the personas methodology into the research phase. Developed by Alan Cooper, a persona is a fictional archetype created to represent different target users. It allows a designer to focus on the needs of one character versus the vast majority. It is hypothesized that the use of personas within the design process will yield a better understanding of the BMX consumer, which will result in an improved design that better satisfies their needs.

Brinker, Jenna et al.

Public Health, Presenter Location/Time

Purpose: Adverse childhood experiences (ACEs) are defined as incidents of abuse or household dysfunction during the first 18 years of life and have been linked to negative health outcomes in adulthood. Data from the 2010 Behavioral Risk Factor Surveillance System (BRFSS) was used to test the association between social and emotional support (SES) and Pyschological Sciencesological distress (PD) in individuals who had reported at least one ACE. Methods: PD defined as present or absent. SES was categorized into three groups (Never, Usually/Sometimes, Always). Association between SES and PD was examined using logistic regression. Stratified analyses examined gender-specific and type of ACE-specific associations. Results: After adjusting for all covariates, SES was negatively associated with PD. When compared to individuals who reported that they “Rarely / Never” received SES, individuals who reported that they “Always” received SES were 87% less likely to report PD (AOR: 0.13 [95% CI: 0.08 - 0.21]); and those who reported that they “Usually / Sometimes” received SES were 69% less likely to report PD (AOR: 0.31 [95% CI: 0.20 - 0.46]). Gender and type of ACE did not significantly modify the association. Implications: For individuals who have experienced ACEs, an SES intervention may reduce the likelihood of suffering from PD.

Burrell, Jennifer

Geography, Presenter Location/Time

The City of Youngstown, OH finds itself in the position of trying to recover from economic collapse at the same time of trying to slow further economic decline. Efforts to reduce crime, gang activity, and drugs within the city have led to more green space including urban gardens, more accountability in the maintenance of rental and vacant properties, as well as introducing new commerce to the city. The impact from these measures is difficult to quantify. Presented here is an examination of neighborhoods in Youngstown where different environmental and societal factors are mapped over a three-year span to see if neighborhood change can be measured and documented through mapping alone. Factors such as maintained properties, new businesses (such as grocery stores), location of schools, and presence of playgrounds are used as proxies to determine the "recovery" of Youngstown.

Cappelli, Holly et al.

Biomedical Science, Presenter Location/Time

Angiogenesis, the formation new blood vessels from pre-existing ones, is critical for maintenance of normal cardiovascular physiology. However, excessive or insufficient angiogenesis can contribute to various diseases including cancer, atherosclerosis, and retinopathy. While the mechanism by which angiogenesis occurs is well established, little is known about the mechanisms that negatively regulate this process. Therefore, we investigated the role of mechanosensitive ion channel, TRPV4, in the regulation of angiogenesis by employing in vitro, ex vivo, and in vivo techniques. In the present study, we first cultured aortic ring explants isolated from wild-type (WT) and TRPV4KO mice and found a significant increase in the sprouting from TRPV4KO aortic rings after 5 days. Next, we found that endothelial cells (EC) isolated from TRPV4KO mice (TRPV4KO EC) exhibited increased proliferation, migration, as well as abnormal angiogenesis in vitro, compared to their WT counterparts. Further, in vivo Matrigel plug assays revealed abnormal vascular growth in TRPV4KO mice. Mechanistically, we found that absence of TRPV4 results in a significant increase in basal Rho activity and that pharmacological inhibition of the Rho/Rho kinase pathway was able to normalize the abnormal tube formation exhibited by TRPV4KO EC in vitro. To confirm these findings, we

examined tumor growth in TRPV4KO mice treated with Rho kinase inhibitor, Y-27632, and anti-cancer drug Cisplatin, alone and in combination. We found that Y-27632 treatment, in conjunction with Cisplatin but not alone, was able to significantly reduce the abnormal tumor growth seen in TRPV4KO mice, suggesting that Rho kinase inhibition may have normalized the tumor vasculature and improved the delivery of Cisplatin. Taken together, these data suggest that TRPV4 is a negative regulator of angiogenesis and potentially a novel target for pathological and/or therapeutic angiogenesis.

Chakravarty, Lopamudra et al.

Mathematics, Presenter Location/Time

Abstract: The linear system of algebraic equations arising from finite element discretization of a symmetric positive definite problem is considered. A hybrid Schwarz domain decomposition algorithm is used to solve this system of equations. This method shows multiplicative Schwarz between coarse and local spaces where local spaces are treated in additive manner. Among three spaces used one is global coarse space which is previously developed for scalar elliptic problems. Other two are local spaces. One local space is non-overlapping subdomains. The other local space is constructed as ring shaped to work as overlapping. Numerical experiment shows the algorithm is optimal in the sense that the rate of convergence is independent of the mesh size and the number of subdomains.

Cifci, Eren

Economics, Presenter Location/Time

In this presentation, I will present my thesis topic. The topics about how parental wealth such as parental education level, parental income effect child future earning.

Copeland, Alexa et al.

Architecture, Presenter Location/Time

Transmission of airborne diseases in healthcare facilities is an increasingly important concern. This, in part, is due to the reduction in funding from insurance companies for hospital-acquired infections (HAI) and the consequent economic impact of an influenza outbreak in a hospital. With recent cases of HAI in the USA, it became necessary to examine the current ventilation standards for healthcare facilities. While, design guidelines have focused on recommending appropriate ventilation rates, it ignored the delivery of conditioned air to occupied spaces and the impact of room layout relative to the placement of air supply and return. Airflow is often designed to contribute positively to air-mixing and, distribution, improvement of thermal comfort and air quality conditions. Unfortunately, air distribution contributes to airborne pathogen transmission as well. Few studies focused on the relative location of air supply and as well as the impact of the movement of people but none found focused on the patient room design and layout relative to recommended airflow patterns. This research focuses on a development of a guideline to help designers understand the effect of room design on the distribution of airborne diseases and the Influenza virus in particular.

Curry, Rebecca et al.

Biomedical Science, Presenter Location/Time

The intracellular chloride concentration [Cl-]i of neurons is one of the critical determinants for how synaptic inhibition works in neural circuits. Using patch clamp, the [Cl-]i of neurons can be experimentally measured and manipulated. Here, the role of synaptic inhibition was investigated in an avian sound localization nucleus, the posterior portion of the dorsal nucleus of the lateral lemniscus (LLDp), using in vitro slice physiology. Coronal brainstem slices (300 Î¼m in thickness) were prepared from late chick embryos (E17-19). Using whole-cell patch clamp recordings, we determined the properties of synaptic inhibition of LLDp neurons, with a [Cl-]i of 14 mM. At the resting membrane potential, this [Cl-]i should result in depolarizing inhibition. Surprisingly, we observed that the inhibition was initially depolarizing, but became hyperpolarizing over time. Gramicidin perforated patch clamp experiments revealed that the native [Cl-]i was low (5 mM) under resting conditions and was elevated (20 mM) during periods of high synaptic activity. Pharmacological experiments highlighted the role of chloride transporters in the maintenance of this low [Cl-]i. Both depolarizing and hyperpolarizing inhibition reduced neuronal excitability of LLDp

neurons, an essential feature of the LLDp sound localization circuitry, and remarkably, the hyperpolarizing inhibition at low [Cl-]i was more effective.

Dames, Emily et al.

Public Health, Presenter Location/Time

Transgender women generally use female hormones such as estrogens to assist in their transition from male to female. The use of these hormones has been associated with multiple side effects, one potential side effect being depressive symptoms. Several studies have concluded conflicting results regarding the effects of hormone therapy on mood and mental health. The purpose of this study is to compare the depressive symptoms and suicide risk of transgender women receiving hormone therapy to those not receiving hormone therapy. An online survey was sent to various transgender support groups and list-serves with a list of mental health resources. Responses were exported into SAS version 9.3, and open-ended responses were also reported.

Dassanayake, Arosha et al.

Chemistry & Biochemistry, Presenter Location/Time

Although uranium content in oceans vastly exceeds that of inland deposits, due to low concentration (Ì´ 3 ppb) of the element and the abundance of other metal ions, the sequestration process of uranium requires designing of materials that possess high affinity, selectivity, and stability in large volumes of seawater. Novel mercaptopropyl (-CH2CH2CH2SH) and cyanopropyl (CH2CH2CH2Câ‰¡N) functionalized ordered mesoporous silica (OMS), along with well-known diethylphosphatoethyl (-P=O(OCH2CH3)2) and amidoxime (-C(NH2)=NOH) OMS were tested for uranium (VI) sequestration from uranium spiked simulated seawater at pH=8. Aforementioned materials, synthesized by a facile co-condensation approach showed high uranium uptake ranging from 16.8 to 22.3 g U/kg (50.2-65.7%), where amidoxime converted OMS showed the highest uptake among all the materials studied. Furthermore for the first time we demonstrate the potential of cyanopropyl and mercaptopropyl OMS for uranium sorption with 18.8 and 16.8 g U/kg capacities respectively. Interestingly our results imply the possibility of direct usage of cyano (-Câ‰¡N) group

incorporated OMS for the purpose without amidoximation which in turn would reduce production cost. All of our materials, showing high potential for uranium (VI) uptake would serve as promising candidates for industrially efficient uranium (VI) recovery platforms.

Dehghan Manshadi, Fatemeh

Teaching, Learning, & Curriculum, Presenter Location/Time

Violence is a major public health issue in the last two decades in some industrialized countries and impacts children, adolescents and adults. Bullying which is a form of violence can happen everywhere, home, school and workplace. Bullying is a form of aggression which includes repetitive and intentional behaviors which involves unequal power between the victims and bullies. The result of recent studies on bullying show that almost 20-35% of youth get involved in bullying as bullies or victims (Levy et al., 2012 as cited in Litwiller & Brausch, 2013). Different factors may contribute to becoming a target of bullying especially at school. For example some specific physical characteristics such as being overweight or underweight may put some adolescents especially girls in risk of being bullied. Gay, lesbian and transgender adolescents are more likely to be the victim of bullying. Adolescents who are engaged in bullying are at higher risk of showing physically aggressive behaviors in adulthood compared to their counterparts who are not (Farrington & Loeber, 2011 as cited in Hunter, Durkin, Boyle, Booth & Ramussen, 2014). Special training, effective school supervision and the promotion of school anti-bullying regulations are helpful to reducing the rate of bullying in high/middle economic level schools.

DeLuca, Haylee et al.

Pyschological Sciences, Presenter Location/Time

Developing competence in peer relationships is an important developmental task for children and adolescents. However, youth who experience instability during childhood, such as adoptees and foster youth, may have difficulty developing competence in peer relationships. Indeed, there is mixed evidence regarding group differences (i.e., how adoptees and foster youth compare to biologically-raised youth in regard to competence in peer relationships) and much of this research is limited by

cross-sectional designs. The current study examines changes in competence in peer relationships from ages 6-16 for four groups: adopted children, biologically-raised children, kinship care children, and foster care children. Competence in peer relationships was assessed using composite teacher ratings at five time points between the ages of 6-16. Utilizing data from the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN), longitudinal trajectories were examined using growth curve modeling techniques in Mplus. Adopted, biologically-raised, and kinship care children did not differ in levels of peer competence at age 6 or change in levels of peer competence over time. However, children in foster care had lower levels of peer competence at age 6, compared to the other groups. These results suggest competence in peer relationships develops differently based on foster care status.

Diamond, Shawn

Art, Presenter Location/Time

Felix Gonzalez-Torres made a series of light strings works of art consisting of store bought light strings hung in any way the collector or curator decides. Whether cascading down a stairwell or in a tangled web draped upon the floor, these works are charged with emotional and conceptual complexity. This study is based upon the artist's statement that all of his art was made for an audience of one: his lover, Ross Laycock. After Ross' diagnoses of AIDS the artist began producing his most mature and eloquent work, including the light strings. The artist employs the pieces as a means to represent memories that the couple has had and the validity of memories never experienced by the couple. This investigation is constructed in a framework referencing the theory of 'ghosts' and 'haunting' as vocalized by Avery Gordon and seen through the lens of affect theory.

Dragovich, Colleen et al.

Lifespan Development & Educational Science, Presenter Location/Time

Goal-setting is a part of self-regulated learning that has significant impacts on student motivation and learning. Badges research has investigated whether digital credentialing for skills and achievements is helpful to students in online environments, however current research has only made

conclusions on motivation. This study investigates whether badges or goals are effective at promoting learning, measured by achievement gains between pretest, posttest, and delayed posttest. Undergraduate students were randomly placed into four groups: (1) the badge condition where badges are presented, (2) the goal condition where goals are presented, (3) the badge and goal condition where both are presented, (4) the control group no badges or goals are presented. Achievement Goal Orientation measures were used to determine goal orientation as a covariate of our group conditions. In Blackboard Learn, participants were given short instruction via six training videos and quizzes. Trends in the first two data collection phases show that the Badges group had higher test scores than the Goals group at the posttest, but that the Badges and Goals group have the highest test scores at both posttest and delayed posttest. Although still in data collection phase, implications for this research will help define effectiveness of badges on learning.

Duzgun, Ayhan

Liquid Crystal Institute, Presenter Location/Time

Unlike equilibrium systems, active matter is not governed by the conventional laws of thermodynamics. Through a series of Langevin dynamics simulations and analytic calculations, we explore how systems cross over from equilibrium to active behavior as the activity is increased. In particular, we calculate the profiles of density and orientational order near straight or circular walls, and show the characteristic width of the boundary layers. We find a simple relationship between the enhancements of density and pressure near a wall. Based on these results, we determine how the pressure depends on wall curvature, and hence make approximate analytic predictions for the motion of curved tracers, as well as the rectification of active particles around small openings in confined geometries.

Ellzey, Delilah et al.

Pyschological Sciences, Presenter Location/Time

Sisters United Now (S.U.N.) is a sister circle therapy group created to address the anxiety experienced by Black adolescent girls. This presentation will discuss members of S.U.N. who are

described as Black adolescent girls from low-income neighborhoods. S.U.N. builds upon existing friendships, fictive Kin networks, and the sense of community among Black female adolescents. In S.U.N., adolescent Black girls gather to talk about their daily lives and learn culturally-infused Cognitive Behavioral Therapy strategies. These skills are developed in preparation for the musical cognitive restructuring component of S.U.N. in which girls reduce their negative thoughts through a musical app (BYOTS). While research has indicated that anxiety in Black adolescence is at an all time high, limited interventions have been developed to address anxiety in this population. Recent research suggests that 20% of Black girls in urban Ohio areas met clinical levels of anxiety. Even so, Black adolescent girls experience anxiety more intensely and for longer periods than their non-Latina white counterparts. Several factors contribute to the anxiety that Black adolescent girls face including accumulated issues of class, race, and sex. Research suggests that perceived racial discrimination and the acting white accusation are two factors that contribute to anxiety in Black youth.

Falco Benavent, Francisco Javier et al.

Mathematics, Presenter Location/Time

I present a brief review of the story of approximation of nice functions by rational functions. Among other results, we review Runge's theorem and Mergelyan’s theorem of approximation of analytic function of one complex variable. Then I will show some of the ideas we have used to solve the approximation problem for analytic functions defined on the product of planar domains whose complement has a finite number of connected components. To be more specific, the approximation is done by functions that can be written as a finite sum of finite products of rational functions of one variable whose poles are prescribed elements of the complements.

Fennell, Curtis et al.

Health Sciences, Presenter Location/Time

Measuring physical activity behavior in children is reliable using objective activity monitoring devices (e.g., accelerometers). The cost of most validated accelerometers makes their use in large samples

sizes untenable for many researchers. PURPOSE: To test the relationship between accelerometer counts of a new, low-cost physical activity monitor (Movband) and a previously-validated monitor (Actigraph GT1M) during two conditions of differing amounts of physical activity (low, high) in children. METHODS: Twenty children (n = 10 boys, 10 girls) were given free access to obstacle courses, balls, books, and toys, for 30 minutes on two separate occasions. Each child was in the gymnasium with no other children present. In one condition, there was an Apple iPad present (low). During both conditions the Movband and Actigraph were simultaneously worn around the wrist and waist, respectively. RESULTS: There was a large, significant, positive association between the Movband and Actigraph ($r = 0.91$, $p < 0.001$) in the low activity condition. This was also true during the high activity condition, however the strength of the correlation ($r = 0.77$, $p < 0.001$) was lower. CONCLUSION: The Movband could be considered a valid predictor of physical activity behavior in children.

Fernando, Drew

Modern & Classical Language Studies, Presenter Location/Time

I received a travel grant from the GSS to go to Japan for the summer, where I was a research intern at Temple University in Tokyo. In addition to researching the 3/11/11 nuclear disaster, I also traveled with the professor and other researchers to various locations within Fukushima Prefecture to conduct interviews and field research regarding the nuclear disaster, it's lasting effects, and more.

Fu, Chenjian

Geology, Presenter Location/Time

Apparent polar wander paths (APWPs) based on paleomagnetic data are the principal approach of describing plate motions through most of Earth history, however the data are extremely variable in quality. The paleomagnetic data (from Global Paleomagnetic Database 4.6b) analyzed includes not only spatial (paleomagnetic pole longitude, latitude) and temporal (magnetic age) information, but also their errors (location error, age error, etc.). The question is what is the best way to turn a collection of individual poles, with different age constraints and uncertainties, into a smoothed APW

path. The approach being developed to analyze the robustness of the smoothed and weighted APWPs, when compared with the predicted tectonic motion from seafloor spreading and hotspot data, is Monte Carlo simulation.

Gallion, Erika et al.

Foundations, Leadership, & Administration, Presenter Location/Time

In the summer of 2015, Erika Gallion traveled to Blagoevgrad, Bulgaria to intern at the American University in Bulgaria while Tabetha Maly traveled to Salmyia, Kuwait to intern at the American University in Kuwait. In each location, these two graduate students in the master's program for Higher Education Administration and Student Affairs worked at institutions aiming to deliver liberal arts education complemented with a holistic student development focus. This presentation aims to acknowledge the benefit of working at an American institution abroad by discussing intercultural communication theories ranging from Geert Hofstede's (2001) Cultural Dimensions to Kluckhohn and Strodtbeck's (1961) Value Orientations. Gallion and Maly agree that interning at an American university abroad greatly impacted their personal and professional lives, and hope to share the way these experiences shaped their career trajectories.

Gao, Kun et al.

Liquid Crystal Institute, Presenter Location/Time

An f/2.1 Pancharatnam phase lens with near diffraction limited performance has been used in to make a non-mechanical zoom lens system working for red laser illumination [1-2]. Furthermore, new results will be presented to a more reliable application as a near-infrared device with even smaller size and higher image quality than that of old one. A demonstration device with a 4x zoom ratio will be based on f/1.3 Pancharatnam lenses with diffraction limited performance, using a similar fabrication method as before.

Gharehgozlou, Bahareh

Modern & Classical Language Studies, Presenter Location/Time

This is a historical study of the works of classical and modern Persian literature in English translation encompassing three time periods: 1925-1941, 1941-1979, and 1979-2015. The particular periodization in this study is mainly based on the important socio-political events in the contemporary history of Iran and their role in shaping the country's shifting relationships with the Anglophone West. The study has two main goals. First, through a quantitative approach, I intend to compile a database of translated Persian literary works into English during these three periods and to trace patterns, sequences, relationships, and blank spaces in the history of Persian literature in English translation. Second, through a qualitative approach, my study attempts to contextualize translations in their relevant socio-historical settings in order to discover the reasons behind those probable patterns.

Ghasemahmad, Zahra et al.

Biomedical Science, Presenter Location/Time

Introduction: Although tinnitus is associated with noise exposure, hearing loss, and some medications, the etiology of Subjective Idiopathic Tinnitus is undetectable. Auditory Steady State Responses (ASSR) at different modulation frequencies (MFs) originate from different sources in the auditory pathway and provides a good tool for studying tinnitus. Methods: Normal and SIT patients were enrolled in this study. All the patients and normal participants underwent ASSR and the results were compared across patients and controls.Results: There was no significant difference between ASSR thresholds recorded from right and left ear for any of the three MFs ($p>.05$). When we compared the contralateral and ipsilateral ASSR thresholds between tinnitus and the normal hearing group, the differences at most of the carrier and modulation frequencies were statistically significant ($p<.05$). Conclusion: Changes in patients' thresholds for most of the modulation and carrier frequencies identify multiple possible anatomical sources of dysfunction in SIT patients. This is in line with previous research showing enhanced auditory MLRs (which is equivalent to 40 Hz ASSR) in tinnitus patients. This study opens a new avenue for studying the source of tinnitus in SIT patients.

Ghayoumi, Mehdi et al.

Computer Science, Presenter Location/Time

This paper describes a new automated facial expression analysis system that integrates Locality Sensitive Hashing (LSH) with Principal Component Analysis (PCA) and Linear Discriminant Analysis (LDA) to improve execution efficiency of emotion classification and continuous identification of unidentified facial expressions. Images are classified using feature-vectors on two most significant segments of face: eye segments and mouth-segment. LSH uses a family of hashing functions to map similar images in a set of collision-buckets. Taking a representative image from each cluster reduces the image space by pruning redundant similar images in the collision-buckets. The application of PCA and LDA reduces the dimension of the data-space. We describe the overall architecture and the implementation. The performance results show that the integration of LSH with PCA and LDA significantly improves computational efficiency, and improves the accuracy by reducing the frequency-bias of similar images during PCA and SVM stage. After the classification of image on database, we tag the collision-buckets with basic emotions, and apply LSH on new unidentified facial expressions to identify the emotions. This LSH based identification is suitable for fast continuous recognition of unidentified facial expressions

Ghayoumi, Mehdi et al.

Computer Science, Presenter Location/Time

Understanding human emotions is a necessary and important step for human-computer interaction. Analysis of human emotion is very important as the field of robotics enters into the new area of social robotics where new generation of humanoids and other smart devices will interact with humans based upon analysis and processing of human emotion; and generation of human comprehensible emotions and Emotion expression is a universal language for human interaction. Human emotion is expressed as a complex combination of facial- expressions, speech including silenced and gestures. My research area is to develop deep learning model that are capable of representing emotions using multiple model involving symmetrical representation, efficient scalable algorithms that can jointly

solve some tasks and learn the necessary intermediate representations of the facial and linguistic units. It will investigate the use of groups and geometric theories to capture symmetric facial-expression; multimodal biometric system and enhanced data fusion for understanding individual emotion with higher accuracy.

Ghimire, Chiran et al.

Chemistry & Biochemistry, Presenter Location/Time

DNA having guanine rich sequence assumes a non-canonical, four-stranded conformation called G-quadruplex have regulatory functions for vital processes such as transcription in cell. Followed by the motivation of these findings, G-quadruplex selective ligands have been center of interest for their potential modulation of G-quadruplex function with ultimate goal to use as drugs in cancer treatment. Demonstration of binding sites of ligands in G-quadruplex is critical to design selective molecules. Here we use mechanical dissection of telomeric G-quadruplex at the submolecular level to evaluate the binding of ligands to the G-quartets separately. By comparing with telomestatin derivatives whose binding sites to the G-quadruplex are known, we attributed the binding of different ligands including metallodrugs to three respective modes, a cap mode that binds to the top (5'-) G-quartet, a clam mode that interacts with both top and bottom (3'-) G-quartets, and a cage mode that shows indistinguishable binding to all three G-quartets. This method provides quick identification of quartet-binding sites for G-quadruplex ligands, which may not be easily confirmed by conventional methods in physiologically relevant concentrations.

Gross, Christi

Sociology, Presenter Location/Time

The transition to parenthood can be a challenging, stressful period for individuals across a range of social locations (e.g., Cowan and Cowan 1995; Doss, Cicila, Hsueh, Morrison and Carhart 2014). This dissertation research focuses on a key factor that may influence the success of this transition: the age of mothers during the birth of their first child. Although U.S. couples are increasingly delaying entry into parenthood (National Center for Health Statistics 2009), the impact of parental

age on postpartum distress during this transition remains an understudied area within the social sciences. To address this existing gap in the literature, I examine the relationship between maternal age at first birth and postpartum depressive symptomatology, with a specific focus on the structural and individual level factors that contribute to this relationship. I draw on two social psychological approaches, life course perspectives and the social structure and personality framework, to highlight the connections between social position and personal control in the context of this important transition. To examine these theoretical relationships, I analyze data from a national survey on motherhood, Listening to Mothers II: Second National U.S. Survey of Women's Childbearing Experiences (Childbirth Connection 2006).

Gurung, Anuj

Political Science, Presenter Location/Time

Although scholarly attention to refugees or their resettlement is scarce, the resettlement program in the U.S. is relatively mature. Starting in 1980, the U.S. has found new 'homes' for more than two million refugees across the country (Singer and Wilson 2006). Consequently, Akron has welcomed thousands of refugees, and is home to new ethnic economic enterprises. So what does resettlement look like? Is it a political solution? Is it a socio-economic success? This is an inquiry into the resettlement program of refugees through the eyes of refugees in Akron.

Haji Molana, Hanieh

Architecture, Presenter Location/Time

Previous researchers in social Sci and environmental Pyschological Sciencesology indicate that the overall arrangement of a community, as well as many other physical environmental features, play a vital function in fostering sense of community. McMillan and Chavis defined "sense of community" as a feeling of belonging, a feeling that others matter to one another and to the group, and a shared faith that personal needs will be met through a commitment to being together. This research by following two aims tries to evaluate the residents' sense of community and assess the impact of socio-demographic features and architectural factors in strengthening or weakening sense of

community in three different residential neighborhoods in Tehran, Iran. Case studies were selected based on architectural styles and community scales. Data was obtained from individual interviews, indirect observation, and surveys. The initial analysis showed that people's relationship within the place is not solely manifested in the built environment, but rather, it can increase its probability. Although sociological aspects have a significant impact on sense of community. Identifying and creating conditions that reinforce sense of community is an essential task for researchers and designers to enhance residents' feeling of safety, civic responsibility and improve physical and mental health.

Hammond, Ryan

Visual Communication Design, Presenter Location/Time

This study assumes that design is the space between disciplines: an interdisciplinary connector within a society of disciplinary specializations. To explore this assumption, I use a mix of qualitative design methods to locate commonalities in design thinking—these primary research findings are used in turn to create a series of prototypes that further examine the disciplinary relationships of study participants through codified audio-visual representation. As an exploration in critical making and speculative design, this study seeks to investigate the question: how might design study better facilitate interdisciplinary culture? Keywords: Interdisciplinary Study, Design Thinking, Critical Making, Speculative Design

Hannum, Kathryn

Geography, Presenter Location/Time

Changes in the nature of capitalist production over the past 30 years have allowed regions to assert a greater political and economic presence in the new global marketplace, often jumping over the central state governments, and competing directly with other regions and states. At the same time, regions are concerned about cultural preservation, fearing the homogenizing effects of the global marketplace. Galicia, a Spanish region located in the northwestern corner of the Iberian Peninsula, was once Spain's lowest economic performer. The establishment of the European single market and

regional development policy had tremendous effects on the Galician economy and society. At the same time, the EU set out policies to preserve regional identity, including language retention. Galicia's late move from a rural agrarian to an industrialized and technology-based economy has been accompanied by urban growth, changes in land use, and language shift. To help analyze these themes, this paper looks at the aims and application of both the EU regional development & cultural policies and utilizes remote sensing tools to track the land use change of urban centers and agricultural land over a 30-year period in Galicia, along with historical and current analysis of Galicia's economy and socio-linguistic structure.

Harrell, Brittney

Theater, Presenter Location/Time

This presentation will demonstrate cultural ramifications from the practice of masking during the seventeenth-century Venetian Carnival season. Masking throughout this season helped the populace break away from approved conduct, encouraging the populace to participate in bawdy and devious behavior. I will examine the security that masking provides by identifying types of masks and their sociocultural meanings. For example, the Gnaga mask, a cats face mask, is identified as a tool that lets men break away from traditional gender norms and gives license to garb themselves in women's clothing and reveal in any homoerotic desires they might have suppressed. The Medico della Peste, or the mask of plague, is a mask with a bird's beak that symbolizes the coming of death. It is based on a medical mask created by Charles de Lorme, chief physician to Louis XIII. Creating equality across all social levels is the Larva mask. This mask translates to "ghost mask" and due to its popularity and design the Larva mask is known to be used as a tool for criminals and spies. I am presenting how the act of masking effects social and cultural behaviors forcing Italy to create new laws for the carnival season.

Harrison, Anthony

Mathematics, Presenter Location/Time

Determining the zeroes of a polynomial is easier when its degree is small. Finding the lattice size of a polytope is concerned with finding exactly how small the degree of a polynomial can be made after an appropriate variable substitution. We discuss algorithms that solve this problem in two-dimensions and how they might be extended.

Hart, Danielle

English, Presenter Location/Time

My thesis chapter explores two instances of mpreg fan fiction featuring characters from the Welcome to Night Vale science fiction podcast. Mpreg fan fiction features male characters who become pregnant through either scientific or supernatural means. I investigate how the concept of male pregnancy in fan fiction can both affirm and deny heteronormative conceptions of gender, physicality, and sexual orientation. Mpreg fan fiction can often be subversive in its portrayal of alternative male bodies and non-heteronormative sexuality. However, the genre can also support traditional norms of family and parenthood. The stories I discuss, which have been electronically published on Archive of Our Own, deal with social norms in both transgressive and assimilative ways, never fully rejecting nor fully supporting heteronormative ideals.

Heller, Caleb

Architecture, Presenter Location/Time

There is a body of work suggesting the greatest potential for financial benefit from green building design comes as a result of improved human health and performance. Research has established lighting, indoor air quality and thermal comfort as the building design elements influencing human performance. This study identifies significance among the design elements impacting human performance, thereby informing green design priorities. Ohio is uniquely positioned for such a study because it has by far the largest group of green schools in the country. A statistical model was developed to analyze change in human performance with change in the built environment for Ohio Schools. The most notable finding was the difference in the rate of change in student performance between daylit schools and non-daylit schools designed for high indoor environmental quality. The

daylit schools outperformed the non-daylit schools with high indoor environmental quality at a rate of 0.6 performance index points per year. The results indicate that among the design elements impacting people daylighting was the leading influencer of student performance. This is the first time a study has found statistically significant evidence of priority among design elements proven to impact human performance.

Hendrixson, Lisa

Mathematics, Presenter Location/Time

We will discuss how the product of a character with it's complex conjugate, specifically the number of nonprincipal irreducible constituents, affects the derived length of a group.

Henning, Kyle

Pyschological Sciences, Presenter Location/Time

Even young children tend to select an unfamiliar object over a familiar object as the likely referent of a novel name. Several explanations for this “disambiguation effect” have been proposed, but none addresses whether the child represents the object contrast in an abstract way. For example, a child who picks a garlic press over a balloon as a “kerm” and a tea infuser over a key as a “blicket” may not represent these decisions as being similar. The child might not think of both as choices of an unfamiliar or as-yet-unnameable object over a familiar or already-nameable object. To address this question, three- and four-year-olds received several disambiguation test trials, then saw new unfamiliar-familiar pairs and had to predict which choice would be correct. Their predictions should favor the unfamiliar object if they are representing the choice abstractly. They should assume that the same category of object would be correct again. Only the four-year-olds tended to predict that the unfamiliar object would be right. Thus, only in this age group was there evidence that they represented their choices on disambiguation test trials as being similar to one another. The effects of modeling on this abstract representation are currently being explored.

Hessick, Catherine et al.

Business Admin, Presenter Location/Time

Due to the increase amount of time consumers spend online, marketers have turned to viral advertising to reach consumers. Once viewed, these advertisements can be "liked" by the consumer and shared with numerous others. Humor has been shown to be one reason why consumers share advertisements. However, what individuals find humorous in advertisements depends on the individual's need for humor (NFH). This paper examines the moderating role an individual's external and internal NFH can have on the relationship between how humorous an advertisement is and the online sharing of that advertisement. As hypothesized, our results reveal opposite effects for internal NFH and external NFH on the sharing of humorous advertisements, thus suggesting that the two dimensions can have different effects on consumer behavior. Our paper contributes to the literature on why individuals share online content. To our knowledge, our paper is the first to show that the effect of humor on sharing can be moderated by the consumer's personality as well as the first that separately examines the two dimensions of the NFH scale.

Hirsch, Dale

Lifespan Development & Educational Science, Presenter Location/Time

This research is interested in clarifying the basic mechanisms underlying two long-term memory tasks. The primary task of interest is called the facilitation of procedural memory (FPM). FPM is demonstrated as an increased efficiency in category identification. The second task is called directed forgetting (DF) which is a decrease in memory for items that an individual was told to forget. FPM is suspected to operate predominately through a mechanism of procedural memory whereas DF is thought to rely more on declarative mechanisms. If FPM and DF can be demonstrated simultaneously using the same stimuli, this would demonstrate dissociation between procedural and declarative memory and thereby support the notion that FPM is procedural in nature.

Hossain, Mohammed Rumman et al.

Biological Science, Presenter Location/Time

Microplastics (plastic debris less than 5mm in diameter) are of particular concern to the environment. Previous research has shown that microplastics provide a substratum for bacterial adhesion in the oceans. However, there is a paucity of information on the adhesion of freshwater bacteria to plastics, especially microplastics. We examined the following microplastics: polypropylene (PP), polystyrene (PS), high-density polyethylene (HDPE), and low-density polyethylene (LDPE). Each type of plastic possesses specific surface morphologies and characteristics which influence adhesion of the bacterial species: E.coli, A.calcoaceticus, and B.cepacia. Scanning Electron Microscopy (SEM) was used to visualize and quantify the colonization of recently discarded "new" microplastics at weeks 0, 4, and 8 composed of PP, PS and PE (representing both HDPE and LDPE) and "eroded" microplastics sampled from the beaches adjacent to Cleveland, OH. The bacteria were allowed to colonize microplastics in water from Lake Erie. Fluorescent microscopy was also used to quantify bacterial colonization. Quantification of Extracellular Polymeric Substances (EPS) was performed to determine how plastic surface characteristics affect bacterial adhesion properties. Imaging showed a gradual increase in attachment of bacteria on all forms of microplastics. PS exhibited high microbial attachment through the entirety of the study, while HDPE, LDPE and PP had relatively minimal microbial attachment at week 4 and had biofilm matrices by week 8. Eroded microplastics had higher bacterial attachment than new microplastics. Imaging indicated that presence of bacterial flagella affects bacterial attachment and EPS production, with peritrichous E.coli displaying highest bacterial abundance on microplastics while producing the least amount of EPS. Meanwhile, non-flagellated A.calcoaceticus had lowest abundance and highest amount of EPS production. Our findings indicate that bacterial attachment to microplastics in freshwater is influenced by the unique properties of different classes of microplastics. As the plastic ages in the environment, its surface becomes eroded causing higher bacterial attachment. In addition, bacteria adopt varying strategies to attach to the plastic surfaces based on their physiological properties.

Howell, Lisa

Foundations, Leadership, & Administration, Presenter Location/Time

In the mid-1980's, an organization called MAC (Minority Achievement Committee) Scholars was created at Shaker Heights High School by successful Black senior students to give 9th and 10th grade Black male students positive role models that looked like them and demonstrated that it can

be “cool” to be academically successful. The creation of MAC Scholars helped dispel the belief that academic achievement can only be associated with “acting White” and one is less Black if he does well in school. The 11th and 12th grade Black male students mentor and assist the 9th and 10th grade Black male students in the areas of academics and social engagement. Some of the Black male students increase their academic achievement as they interact with other Black male students within the MAC Scholars. These students become positively engaged with their high-achieving Black male peers. My oral presentation, qualitative in nature, will focus on what the current literature says about the types of positive social engagement high achieving Black male students experience. Additionally, I will briefly discuss my approach to interviewing high achieving Black male students, through the lens of Critical Race Theory, who are current 11th and 12th grade students at Shaker Heights High School. They may or may not be involved with MAC Scholars, but they may participate in less formal and structured forms of social engagement with successful Black male students and/or at Shaker Heights High School and/or outside of school, e.g., a church or other organized social activities that contribute to their experience. The guiding questions for the pending research are as follows: 1. Do Black male high school students who have exposure and positive social engagement with other positive Black male high school students in some form of organized activity have high levels of achievement? 2. What are the elements of the relationship between the positive social engagement and achievement? There are limitations to the study, the findings cannot be generalized to other populations. However, in-depth interviewing will allow the formation of conceptual notions that can lead to testing in future research. The ultimate goal is to provide useful ideas to schools and other agencies as an underpinning to constructing experimental models to improve Black male student achievement. It is hoped that the research can serve some transformative purpose and promote positive change.

Hughes, Leigh

Visual Communication Design, Presenter Location/Time

Video games encourage visual-spatial skills, which is the ability to manipulate shapes and understand how the three-dimensional world works. Offering girls more opportunities to practice these skills in early childhood may help to close the current gender gap in STEM (Science, Technology, Engineering and Mathematics) and produce more female engineers. Currently, women are

significantly underrepresented in STEM-related occupations, particularly engineering and computer science. Providing interactive gaming opportunities to girls during early childhood, a critical developmental period, can inspire girls to evolve these skills, provide them the tenacity to pursue engineering as a profession, and ultimately help close the STEM gender gap.

Humphries, Zach

Journalism, Presenter Location/Time

One major problem with the existing literature on racial and ethnic bias in sports coverage, is that the majority of the research done has looked only at how European-American and African-American are depicted by the sports media. There are no such studies that I found which look at how other ethnicities are depicted by the sports media. I will look to narrow the gap by proposing a way that we can have a better insight on how other ethnicities are portrayed as well. Two of the large groups that are underrepresented in this current research are Latino and Asian athletes. To gather more insight on how these two ethnicities are racially framed, I will look at Major League Baseball coverage. I will look at the MLB because it is one of the four major sports in the United States in which has both Asian and Latino athletes. In order to be included in my research, these athletes have to be of Asian or Latino descent, but not necessarily foreigners.

Islam, Md et al.

Geography, Presenter Location/Time

Although synoptic climatological applications to the monsoon climate are slim at best, the self-organizing maps technique has the potential to improve the general understanding of the monsoon system in south Asia. Including Bangladesh meteorology dataset, five surface level atmospheric variables used at a once daily resolution for 67 years (1948-2015) from the reanalysis dataset (Kalnay et al. 1996 across the South Asia. Creating self-organizing maps (SOMs) for each of the surface level variables to see the pattern and flow, rapid increase or decrease, or any of the abrupt changes that are happening in the month of the pre-monsoon, during monsoon, and post monsoon season. The 9X9 dimension of SOMs with 81 clusters for each of the variables has been observed to

find the break point from the SOMs based on the defined months of possible clusters and daily calendar created separately based on seasonal sharp transition looking at average field per nodes. Observing the temporal stratification of abrupt or continuous changes of circulation, onset criteria has been set for each of the variables and created daily calendar to look at similarity and variation among the variables.

Jackson, Jaietta

Foundations, Leadership, & Administration, Presenter Location/Time

“African American children in the public school system have been suffering. Statistics report high attrition rates, a disproportionate number of special education students, and low success rates (S.W. Rivers and F. A. Rivers, 2011, p. 175)” . Scholars often study and discuss the failures of these suffering students. The larger problem is the lack of discussion regarding the sources and foundation for success of these students. Does the family style that they are reared within play a role in Black male students’ success? How do Black Males from single parent households succeed on the collegiate level? Through preliminary research I hope to discover facets that enable Black males to succeed collegiately which will broaden the scope of Black male educational research adding new information and a new perspective. When no longer painting a bleak future for Black male students, parents and Black male students can then be informed of collegiate success strategies, thus allowing Black males to have a better chance in college. When the literature is expanded to include information regarding Black male collegiate success, Black families of Black males can utilize the evidence to help promote academic success of their child/children.

Jamali, Afsoon et al.

Liquid Crystal Institute, Presenter Location/Time

There has been a recent surge in the development of stereo technologies, in particular augmented reality and virtual reality technologies, for entertainment and information purposes. However, stereo technology is limited by visual discomfort due to the accommodation-convergence conflict. Our study aims to solve the accommodation-convergence conflict in stereo displays by using a

continuous focus liquid crystal (LC) lens with a novel design. To design a large size lens with adequate optical power, three strategies are considered: increase the cell thickness; use multiple-cells; and segment the phase profile. In this study we implement these strategies to design and fabricate an optimized LC lens to solve the accommodation convergence conflict.

Kelvin, William

Journalism, Presenter Location/Time

This study was a qualitative investigation into the experience of advocating pro-environmental behaviors in the workplace. There was a gap in the literature concerning everyday workplace communication about the environment, which I conceptualized as “quiet championing,” contrasting against “environmental championing,” in which workers promote sustainable workplace policies. I interviewed four sustainability professionals and found that each communicates interpersonally to co-workers about altering behavior in the workplace toward sustainability, despite the fact that such communicative work is not part of their position’s tasks. The respondents found this behavior socially risky; potential negative impacts were explored, as were the logics governing such decisions. Workers were motivated by the desire to spread environmental and sustainability values, hoping to contribute to larger social change. However, throughout the interviews the idea came up that traditional environmental championing is more effective for long-term/widespread change. Two of the four respondents described the everyday behavioral modification messages as wasteful of their personal energy. Thus, while “quiet championing” happens, environmentalists may be better off approaching organizational leaders about policy change to advance their cause.

Kharel, Prakash et al.

Chemistry & Biochemistry, Presenter Location/Time

Reactive oxygen species (ROS) are highly reactive oxygen species produced inside the cells that can lead the biomolecules to oxidative modification. The overproduction of these ROS is associated with age and certain neurological disorders like Alzheimer’s disease, Parkinson’s disease and multiple sclerosis. The weakened cellular antioxidant defense mechanism in the brain of the patients with the

neurological disorders makes the neurons susceptible to oxidative damage. The ROS can damage every biomolecule including DNA, RNA and proteins. In the past scientists have focused mainly in the damage in the DNA and protein while the detrimental effects of RNA damage are being highlighted only in recent years. By inducing an oxidative stress in human neuronal cell line, we aim to deconvolute the relationship between RNA oxidation and neurodegeneration. By using immunoprecipitation and HPLC-ECD, we have quantified the level of RNA oxidation. RT-qPCR assay showed that the expression of some RNAs get altered more than the others.

Kingsbury, Diana et al.

Public Health, Presenter Location/Time

Many authors have qualitatively explored the experiences of refugee women through pregnancy and childbirth, yet practitioners still strive to improve maternal health in this population. This study's purpose was to use a qualitative metasummary process to identify commonalities and differences in these women's experiences, and develop recommendations for practice. We used a systematic search to identify 23 relevant published research reports, and independently rated the quality of each by using a modified version of the Critical Appraisal Skills Programme. We classified 11 of 23 articles as at least good quality. We used Dedoose software to extract themes and assess prevalence across contexts and then determined credibility of findings based on the quality rating. Prevalent and credible themes included the Obstacles participants traversed in order to access appropriate and culturally sensitive healthcare, the ongoing process of Seeking Congruence between medical care and cultural traditions, and how women's access to pre and postnatal healthcare was simultaneously Encouraging Resettlement. As a result of this metasummary, healthcare practitioners might emphasize approaches to pre and postnatal care within refugee populations that encourages social connectedness such as use of midwives or interpreters with expanded roles.

Kirk, Johnathan

Geography, Presenter Location/Time

Declining annual mountain snowpack across the western United States is placing unprecedented strains on regional water supplies. Further complicating seasonal water supply forecasting is the emerging prospect that interannual variation in alpine snow conditions is greatly influenced by the occurrence and characteristics of large precipitation events each year, rather than more frequent, but less intense events. The occurrence of these large precipitation events can dictate whether a year produces above or below average runoff, underscoring the need for more targeted investigation. Using observational data recorded at a sample of snow telemetry (SNOTEL) monitoring stations located among headwater regions of the Upper Colorado River Basin (UCRB) in Colorado and Wyoming, this study seeks to define a "large precipitation event" and examine its relative influence on yearly water supply. The frequency, duration, and spatial coherence of large precipitation events are examined from daily precipitation data in the UCRB from 1981-2014, a span of years which includes the ongoing, early 21st century drought (2000-present) and the relatively wetter preceding years (1980s-1990s). Examining the atmospheric circulation patterns associated with resultant large precipitation events may yield predictive signals which can be integrated into more accurate and representative seasonal water supply forecasts.

Kirmani, Ammar et al.

Physics, Presenter Location/Time

In this research talk, I will present possible phases of fermions interacting via p-wave interactions inside harmonic trap. I will start with brief introduction of problem, mathematical framework used, equations related to particle number and population imbalance, followed by cumputational/numerical simulation. I will also discuss possible phases in which our fermions can exist as we go from trap center to its boundary.

Kiskowski, William

Geography, Presenter Location/Time

This paper centers on depictions of Roma in popular film. Fictional works have conditioned mainstream opinions towards the Roma, defining them as nomadic misfits on the fringes of society

and beyond or “outside” of the normal community. Roma have historically had little control over the fictional discourses in which they are represented, guaranteeing that their popular identity will continue to be dictated by the creative embellishments of popular writers, artists, and film makers. This paper explores the intersection between geography and film studies, by considering spatial aspects of cinematic depictions. Film characterizations and fictional portrayals can have a lucrative impact on real-life treatment or mistreatment of minority groups. Furthermore, media depictions encourage popular callousness towards real-life struggles of the Roma people, especially in Europe.

Leistner, Kevin

Theater, Presenter Location/Time

Marlowe's "The Tragical History of the Life and Death of Doctor Faustus" is examined through the lens of romanticism. The research focuses on the longer B text of the play that was first published in 1616, and particularly on Act 2 Scene 2 in which Faustus meets Lucifer and the Seven Deadly Sins. Even though romanticism was a 19th century concept, the Elizabethan-era Marlowe clearly expresses that concept in Text B.

Li, Lin et al.

Chemistry & Biochemistry, Presenter Location/Time

One ubiquitous phenomenon in nature is chirality and can be achieved at various hierarchical scales from a single molecule to macromolecular superstructures with chiral elements or not. While many bent core liquid crystal molecules are achiral, they can assemble in a chiral fashion generating chiral layer structures (B2 textures), dark conglomerate (DC) phases, helical nanofilaments (HNF), and modulated helical nanofilament (HNFmod) phases depending on the specific chemical structures. Here, we present the synthesis of several new bent core liquid with tris-biphenyl di-ester cores and chiral side chains characterized by NMR, elemental analysis, DSC, POM, CD, XRD, TEM, and AFM. We demonstrate that phase transition temperatures and phase sequence of these bent core molecules depend not only on carbon atom numbers, but more on the chiral carbon atom positions in the side chain. The HNF phases formed by the chiral side chain derivatives are stable over large

temperature intervals with reduced clearing points (~100 Â°C). POM images, CD spectra, and TEM images indicate homochirality, and SAXS data imply an altered, dual, 3D phase modulation (HNFmod2 phase). Synthesis of more homologues of these bent core liquid crystals and their composites with a variety of gold nanoparticles dopants are currently under investigation.

Little, Virginia et al.

Sociology, Presenter Location/Time

With the rise of online course offerings at many colleges, online learning has become a burgeoning new area of pedagogical techniques and hurdles. Face-to-face (F2F) teaching methods and activities don't translate perfectly to an online learning environment. In F2F classes, classroom discussion and participation are more natural to students and teachers. Let's be honest though. The majority of online students believe that because a course is online, it will be easier. Specifically, students hate doing discussion boards and putting forth extra, "˜unnecessary' effort. Teachers may also resent grading them because of the posts' subjectivity. To tackle these concerns, we recommend two avenues to address issues in discussion boards via online teaching: 1) how to make discussion boards more enjoyable and intellectually stimulating (for both students and instructors); and 2) other alternatives are out there that serve the function of classroom discussion and engagement in an online course.

Long, Brooke

Sociology, Presenter Location/Time

Previous research has explored the relationship between religion and prosocial behavior. For example, researchers have examined the "love thy neighbor" hypothesis to explore the impact of religiosity on attitudes toward outgroups. Most previous research has examined one or two components of religious behavior or attitudes, and has found that highly religious individuals report more positive evaluations. This research will explore multiple components of religion, including religious affiliation, religiosity, strength of belief, and frequency of religious behavior, and examine attitudes toward multiple outgroups, including some with criminal backgrounds. Two main questions will be addressed.

Which components of religion impact individuals' attitudes toward outgroup members? Additionally, how do these impacts differ depending on which outgroup is being judged? Analysis will be conducted using a nationally representative, probability-based web panel collected in October 2015, and a series of logistic regressions. Preliminary findings suggest the outgroup impacts evaluation more than any component of religion.

Lostoski, Leanna

English, Presenter Location/Time

In Ulysses (1922), James Joyce explicitly experiments with representing the passage of time in the "Wandering Rocks" episode in his attempt to fully render the richness of existence and the entirety of an hour in Dublin, Ireland on June 16, 1904. Joyce depicts events as happening simultaneously in "Wandering Rocks" through his use of interpolated characters, objects, and actions. These interpolations are inserted temporally into sections of which they do not spatially occur to indicate simultaneous action and existence. Strikingly, these interpolations often focus on nonhuman materialities rather than Joyce's human characters. I argue that, partly in response to the newly implemented system of global standardized time, Joyce uses his interpolations to subvert manmade structures of time. They not only work to suggest a simultaneity of events occurring within the episode, but also to create an alternate temporal structure: a temporality that is structured by all of the things he presents in "Wandering Rocks." In this way, Joyce's depiction of the temporality of things in "Wandering Rocks" invites one to consider all materialities, both human and nonhuman, on the same plane of being and agency, as well as to question a singular experience of temporality.

Maar, Aliaa

Applied Engineering, Sustainability, & Technology, Presenter Location/Time

A fuel cell is an electrochemical device that continuously converts the chemical energy of the fuel into electrical energy, with water and heat as by-products if using pure hydrogen as a fuel. Fuel cell are considered approximately zero to low emission power generation device. Solid Oxide Fuel cell is a ceramic based fuel cell. This project-the spiral fuel cell- is proposing a high density solid fuel cell that

utilizes the inner space of the tubular shape by creating more surface area to increase the power generation. A compacted manifold has been added which deliver the gas, collect the current and diffuse the products. The spiral cell can work as a single cell with two manifolds as end caps or it can be stacked with an interconnector that work as the manifold in the stacking situation. The model has been developed in two ways to increase the power outage and the efficiency at the same time. The proposed method of production is additive manufacturing that allows the control of the porosity, the microstructure and embedded feature to the spiral cell which have a significant effect in the amount of power that generated from Solid Oxide Fuel Cell in general.

Majers, Marc

SLIS, Presenter Location/Time

Inject realistic tasks into your usability testing to improve the outcome

Maleki, Parastoo et al.

Physics, Presenter Location/Time

G-quadruplex (GQ) structures are formed by guanine-rich nucleic acid sequences and have important physiological functions in telomeric and non-telomeric contexts. Most importantly, stabilizing these structures has emerged as a potential cancer therapy as it is considered an effective mechanism to slow down proliferation of cancer cells. Therefore, small molecules that stabilize the GQ have attracted significant attention in the past few years as potential anti-cancer drugs. Among such small molecules, telomestatin is one of the most promising GQ stabilizing anticancer drug candidates. Telomestatin has a planar structure and interacts with GQ electrostatically and via π-stacking interactions, stabilizing the GQ by stacking on top of one or more G-tetrad layers. Earlier work has characterized the thermal stability provided by these stacking interactions; however, the underlying dynamics of the interactions are not known. We studied the interactions of telomestatin, labeled with an acceptor fluorophore (Cy5), and G-quadruplex, labeled with a donor molecule (Cy3), using single molecule Förster resonance energy transfer (smFRET). Our results show telomestatin stacks on top of a particular G-tetrad layer for 2-30 seconds before dissociating, with a

minor population lasting significantly longer times. In addition, we identified at least two different orientations for telomestatin stacking, and observed infrequent switching between these orientations. We also studied different types of GQs having different stabilities and observed that telomestatin binds more frequently to the more stable GQ.

Marx, Ryan

Philosophy, Presenter Location/Time

In Just and Unjust Wars, Michael Walzer makes an important distinction between “measures short of war,” such as imposing no-fly zones, and “actual warfare,” often instantiated by ground invasions and bombing campaigns. Even if the former are, technically speaking, acts of war according to international law, he proffers that “it is common sense to recognize that they are very different from war.” While they all involve “the use of force,” Walzer distinguishes between the level of force used: the former, being more limited, lack the “unpredictable and often catastrophic consequences” of a “full-scale attack.” Walzer calls the ethical framework governing these measures jus ad vim (the just use of force), and he applies it to state sponsored uses of force against both state and nonstate actors outside a state’s territory that fall short of the intensity of traditional warfare. Compared to acts of war, jus ad vim actions present diminished risk to one’s own troops, have a destructive outcome that is more predictable and smaller in scale, severely curtail the risk of civilian casualties, and entail a lower economic and military burden. The task of this paper is to investigate how one might create more robust jus ad vim constraints.

Mauerman, Bethanie

Lifespan Development & Educational Science, Presenter Location/Time

In the United States gender is defined by a binary system with categories of male and female. The binary system is a socially constructed one that is based on society’s norms. Gender is instilled in children through socialization with their family, peers, and institutions. It is also reinforced in various ways throughout the lifespan (Dietert and Dentice, 2013). Although the gender binary system is widely accepted throughout society, many individuals today do not identify within the binary system.

These individuals may identify as being transgender, genderqueer, gender nonconforming, gender fluid, a mix of the two genders, or neither gender. Research shows that these individuals are at risk of discrimination, prejudice, bullying, strained relationships, and violence which puts them at a higher risk of physical and mental health problems when compared to the general population (Dietert and Dentice, 2013). The purpose of this literature review is to explore at a deeper level some of the challenges that individuals who do not identify as their assigned gender may face, and also explore possible ways to help these individuals' lead better lives.

McGinty, Colin et al.

Physics, Presenter Location/Time

In this study we have spin coated different concentrations of the azodye Brilliant Yellow in DMF onto glass substrates to produce liquid crystal alignment layers with varying thickness. The layer thickness and order parameter of these layers are extracted using polarized absorption spectroscopy. The anchoring energy is measured in thin twist cells using a method that simultaneously extracts both the liquid crystal cell gap as well as twist angle of the director. The stability of these layers is measured as a function of subsequent exposure to polarized blue light. Preliminary results show that given identical exposures, the thicker azodye layers reorient more easily than thin layers. The graphs below show polarized absorption spectra for two different azodye layer thicknesses; note the higher order parameter (determined by the ratio of the absorption of light polarized parallel and perpendicular to the alignment axis) for the thick BY layer relative to the thin. This indicates that thin azodye layers have a higher activation energy for reorientation than thick layers. The fact that thin alignment layers were more stable to subsequent exposure to polarized light than thick layers also supports this conclusion.

Mendonca, Raissa et al.

Biological Science, Presenter Location/Time

Nickel in aquatic ecosystems can be toxic to aquatic invertebrates and impair ecological function and biodiversity. However, the cycling and toxicity of Ni is coupled to other elemental cycles. Solid-

phase ligands such as organic carbon, metal sulfides, and metal oxide minerals can bind Ni and limit its bioavailability. Our study assessed Ni bioavailability in sediments exposed to effluent from mining operations by coupling sediment geochemical characteristics to the indigenous macroinvertebrate community. Benthic macroinvertebrates (identified to family) were collected at two pairs of reference and effluent-exposed sites, concurrently with intact sediment cores and overlying water samples. Effluent-impacted sites contained high concentrations of sediment Ni and sulfur. Benthic invertebrate community responded to nickel exposure and was structured by overlying water and surface sediment environmental variables. Mayfly (Hexagenia sp.) relative abundance significantly decreased with total Ni concentration at both mine locations. RDA analysis explained 15% and 14% of community variation in surface sediment and water models, respectively. Forward stepping method selected total Ni and iron oxide minerals as most important sediment chemistry predictors of community structure, and conductivity and pH in water chemistry model. Our results highlight the importance of considering coupled elemental cycles when predicting benthic invertebrate toxicity to sediment metals.

Mirihana Arachchilage, Gayan et al.

Chemistry & Biochemistry, Presenter Location/Time

MircoRNAs (miRNAs) are short oligonucleotide sequences that are known to regulate expressions of more than one-half of human protein coding genes. The maturation of miRNAs is a tightly regulated process as the elevated level is often linked to various diseases including cancer. Several studies have showed that miRNA 92b is overexpressed in non-small cell lung cancer (NSCLC) which downregulates PTEN and RECK tumor suppressor gene expressions. We have previously reported that the precursor miRNA 92b (pre-miRNA 92b) adopts G-quadruplex (GQ) structure and exists in an equilibrium with canonical stem-loop. Further, we showed that the GQ inhibits Dicer mediated maturation of pre-miRNA 92b. Here we used a locked nucleic acid (LNA) modified oligonucleotide to shift the structural equilibrium more towards the GQ conformation and reduce the maturation of miRNA 92b. Using A549 cancer cells, we showed the LNA treatment can rescue a targeted reporter gene expression by lowering the mature miRNA 92b level. We also showed that the oligonucleotide treatment results in growth inhibition of A549 cells. These findings show that

controlling the maturation of GQ harboring miRNAs that are overexpressed in various diseases can be a novel therapeutic strategy.

Mohammed, Imtiyaz Siddiqui et al.

Applied Engineering, Sustainability, & Technology, Presenter Location/Time

In this project a three phase transformer is replaced by a coupled inductor. As transformer is costly and maintenance of transformer is also costly. So in this project we can reduce the cost of transformer and its maintenance cost. The coupled inductor act as step up transformer and boost the input voltage. Here we use MOSFET for switching and boosting of voltage. By using this method we have less losses and it is profitable in means of cost.

Moussa, Fouad et al.

Biomedical Science, Presenter Location/Time

MicroRNA is a small non-coding RNA that consists of about 22 nucleotides, which targets mRNA and triggers its degradation or repress translation. MiR-150 is highly expressed in immature B cell stage, and targets c-Myb, a transcription factor that is important for lymphocytes development. Our laboratory shows that miR-150 is expressed in mouse long bone and calvaria, and its expression is increased with age, thus, suggesting that miR-150 might play a role in bone homeostasis. Here, we show a novel role of miR-150 in osteoblast differentiation and function, where miR-150 gene expression is maximum at early stage (cell proliferation) and decreases at later stage (matrix mineralization) of osteoblastogenesis in vitro. To further determine the role of miR-150 in osteoblast function in vivo, we obtained the miR-150 knockout mice (miR-150 KO) and characterized their skeletal phenotype. MiR-150 KO mice have decreased bone mass associated with less bone volume to tissue volume ratio; decreased trabecular number associated in increased trabecular separation. This phenotype was evident as early as 4-weeks of age. Interestingly, there was an increase in ex vivo miR-150 KO osteoblast differentiation and function compared to wild type (WT) using Mesenchymal Stem Cells (MSCs). We further examined osteoclast-mediated bone resorption in vivo and found that CTX1 levels was significantly higher in miR-150 KO compared to WT mice at age

of 16-weeks. Ex vivo study of osteoclasts showed a decrease in miR-150 KO cells differentiation and function compared to WT. To determine the mechanism by which miR-150 plays in regulating bone cell differentiation and function, osteoactivin/gpnmb, a bone anabolic factor is regulated by miR-150 through its 3'-UTR. Osteoactivin/gpnmb expression was increased in miR-150 KO compared to WT bone cells. These results explained, at least in part, the mechanism of miR-150 in regulating bone cell differentiation and function. Taken together, these data suggest that miR-150 is a novel target for bone-related genes that might play a role in bone homeostasis and osteoblast and osteoclast differentiation and function. In addition, miR-150 can also be utilized as a therapeutic potential to treat osteoporosis, or used as a diagnostic tool for bone-related diseases.

Myroshnychenko, Sergii

Mathematics, Presenter Location/Time

Hedgehogs are geometrical objects that describe the Minkowski differences of arbitrary convex bodies in Euclidean space. We prove that two hedgehogs in the three dimensional Euclidean space coincide up to translation and reflection in the origin, provided that their projections onto any plane are directly congruent and have no direct rigid motion symmetries. Our result is a consequence of a more general analytic statement about the solutions of a functional equation in which the support functions of hedgehogs are replaced with two arbitrary continuous functions on the unit sphere.

Nahouli, Leen

Health Sciences, Presenter Location/Time

A group of audiology students from the Northeast Ohio AuD Consortium (NOAC) along with 2 clinical preceptors organized an audiology mission trip with Hearts of Motion to Guatemala. Guatemala has only audiologist, so the hearing health demands of the country are not met. This mission trip's aim is to provide sustained hearing services and to allow people to have access to hearing care so that they are able to regain some normalcy in their lives.

Nasir, Shazia

English, Presenter Location/Time

Critics have often accused that by emphasizing the inner, the modernist novel has shunned the outer, the political, and the public. They contend that because of a perceived fragmentation of the external world, the modernist narrative incurvates into the recesses of the inner, thereby, leaving a void, a negation in the external. I claim that those recesses of the inner became manifest as the stream of consciousness, which in itself, are locations for thoughts, actions and events, and this manifestation did not result in a negation, but created a negation, an empty place""a place nevertheless into which flowed the stream of consciousness establishing a relation where the causality of each depended on the other. Drawing upon the idea that the stream of consciousness and the negation in the external are eventful places, I argue that the inner places of the modernist novel created the outer places enlivened with actions and historicised with political realities. In fact, the intensity of the private speculations influenced the emergence of political entities evident in the liberation and demarcation of new nation states in the aftermath of the Great Wars. My concern is modernism's relation to nationalism as it evolved in Britain and impacted its colony, India, and its role in influencing Indian writers in redefining their identity, imagining new nations, and creating nation-states in a post-colonial consequence. I will demonstrate that as W.B. Yeats and James Joyce created a place in literature that would locate Irish nationalism and identity, the poet-philosopher of colonial India, Allama Iqbal, presented the idea of a separate place for Muslims in the Indian subcontinent, which became the generative source for the creation of Pakistan. Both Joyce and Iqbal enter the inner to create the outer, and in case of Iqbal, a place, a nation state did emerge eventually.

Nemes, Ashley et al.

Biomedical Science, Presenter Location/Time

Epilepsy is the fourth most common neurological disorder in the United States. Although various therapies are available for treatment, there is no known cure or reliable biomarker to determine which patients are at an increased risk of developing epilepsy. In many cases, patients with medically intractable epilepsy have underlying congenital pathological abnormalities such as cortical dysplasia (CD), a malformation of cortical development that is associated with an increased risk for postnatal

epileptogenesis. Brain tissue resected from patients with CD shows an increased expression of growth associated protein 43 (GAP-43), a marker of axonal sprouting, in epileptic regions as compared to adjacent non-epileptic areas. In parallel, a rat model of CD reveals higher levels of GAP-43 as compared to controls, making the results highly translatable. Rats were given an acute seizure and monitored for 4 months with video and EEG. Brains were analyzed at various time points following the induced seizure to study the progression of epilepsy. Both CD and control brains displayed an increase in GAP-43 protein expression acutely after the induced seizure. However, controls returned to baseline expression over time, while GAP-43 expression in CD brains continued to increase. After 4 months, several CD rats developed spontaneous seizures, while no control animals exhibited epileptic activity. These animals revealed heightened GAP-43 expression, which was correlated with epileptic activity. Additionally, GAP-43 proteins co-localized more strongly with markers of neuronal excitation as compared to inhibition. These findings may implicate a new target pathway for better diagnosis, treatment and prevention of epilepsy.

Nouri, Taissir

Biological Science, Presenter Location/Time

Automated instruments will test personal genomic and then run preprogrammed tests to determine personal genome compatibility with the new Biodiscoveries via bioinformatics platform and return results to the user(s). The software will also predict best treatment option . This will be done through a supercomputer controlled laboratory instruments.

Novisky, Meghan

Sociology, Presenter Location/Time

Given the continued reliance on mass incarceration as a social control strategy in the United States, the aging of the prisoner population, and the generally poor health of prisoners as a group, it is becoming more and more important to investigate how prisoners grapple with the onset and progression of chronic disease. Data gathered from original, survey-led interviews with older men incarcerated across 3 prisons in the northeast were analyzed to understand what specific health

promotion strategies are available to and utilized by older inmates to help them manage chronic disease within the constraints of the prison environment. Results reveal that older inmates within this sample make deliberate choices related to diet, education, and advocacy in the hopes of enhancing their abilities to manage chronic diseases like diabetes. Importantly, however, these choices are fueled within a context of privilege or cultural health capital and this has important implications for those who do not have similar access to privileged statuses.

Olesko, Beatrice

Music, Presenter Location/Time

The purpose of this study was to examine elementary general music teachers' understanding of their students' non-school music experiences and their thoughts on integrating these into their classroom practice. Specifically, the study sought to answer the following questions: (1) In what ways do elementary general music teachers have knowledge of their students' non-school music experiences? (2) How do elementary general music teachers incorporate non-school musical experiences into their classroom practice? (3) What are elementary general music teachers' perceptions of the values and challenges of connecting their students' non-school music experiences into their classroom practice? A survey was distributed to elementary general music teachers in Ohio examining knowledge, confidence, action, and attitude toward students' non-school music experiences. Results indicated that individual and class discussions were the primary sources of teachers' knowledge of non-school music experiences, and that these discussions and the performance of culturally relevant music were the principal ways teachers connected to their students' outside musical lives. While teachers overwhelmingly indicated connecting non-school music experiences to their classroom instruction was a sound pedagogical practice, insufficient time and resources for obtaining knowledge of students' musical backgrounds and implementing their experiences into the curriculum were identified as the primary challenges for doing so.

Oliver, Emily

English, Presenter Location/Time

In her literature, Jane Austen deftly exhibits this universal truth about English culture: food is sacred and every meal is a ritual communion. Of the author's most popular novels, Emma is the richest in its descriptions of food and eating. As Maggie Lane, author of Jane Austen and Food, states, " [f]ood anchors the fictive to the real world, contributing to that powerful sense of fidelity to life which so many readers have testified to feeling most especially with this book" (153). With the acts of procuring and consuming of food holding such a central role in Austen's real world, it only follows that food would be essential to her masterpiece novel. However, the conversations over tea, debates about gruel, and great deal of talk about apples serve another purpose as well; the exchanges of food from one hand to another often reflect the more foundational power struggles and relations among different classes, genders, and cultures.

Orsini, John

Architecture, Presenter Location/Time

What does and can a wall achieve between two spaces? In architectural thinking, walls are not only physical elements, but are also collocated with certain experiences, memories, and meanings. The wall can also be perceived as a symbol which requires the constant rethinking of relevance in relation to its surroundings. This investigation explores what a wall is and how walls transform from being mere boundaries that contain and compartmentalize space into something full of human experience and meaning. Robert Frost's The Mending Wall suggests the perennial task of mending the wall is one of a physical rebuilding and one of a remembering the continued relationship between two neighbors. The moment at the wall provides a temporal connection, otherwise understood as an open boundary of discovery, between two sides. Frost's iconic adage, "Good fences make good neighbors," is about sustaining relationships. This very idea implies, in an oxymoronic manner, the appropriate design and maintenance of walls. Through descriptive prose and inquiry into specific case studies, this investigation studies how walls manifest into relationships that are once physical and then emotional. Walls are a medium of gradient symbols that not only divide differences, but also forms meaningful connections between materials and humans.

Pardaev, Shokir et al.

Physics, Presenter Location/Time

We report optical reflectivity and dynamic light scattering (DLS) studies on freely suspended thin smectic films of a two different compounds: ordinary smectic A films of rod-like molecules and smectic phase of symmetric liquid crystal dimers. In sufficiently thin films the reflectivity R is expected to scale as the square of the number of smectic layers (N^2) while the frequency f of underdamped layer fluctuations scales as N^(-1/2). On heating thin films drawn in the smectic phase, we observe a sequence of layer thinning transitions, with reflectivity R and frequency f following the expected scaling relations, provided the stepwise melting involves double layers in dimers and single layer in smectic A phase rodlike molecules. We will describe a model to explain the unusual layer thinning process.

Parsouzi, Zeinab et al.

Physics, Presenter Location/Time

The “twist-bend nematic” (NTB) is a recently discovered phase of liquid crystals. Its ground state features a heliconical molecular arrangement in which the nematic director precesses uniformly about a fixed axis, at a finite angle to this axis. The helicoid has a nanoscale pitch. We present the dynamic light scattering studies in monomer/dimer mixture, which exhibits nematic and Twist-Bend phases. In the nematic phase, two fluctuation modes are observed: one is the hydrodynamic twist-bend director mode, while the second is clearly non-hydrodynamic and can be ascribed to fluctuations of the polarization field about a zero equilibrium value. In the Twist-Bend phase, a single hydrodynamic plus two strongly temperature-dependent nonhydrodynamic modes are observed. The hydrodynamic fluctuation corresponds to undulation of smectic-like “pseudo-layers”, while tilt of the coarse-grained director away from the “pseudo-layer” normal and polarization fluctuations are responsible for the nonhydrodynamic modes.We compare our results to a theoretical model that expands the Landau-deGennes free energy density for both phases in terms of the uniaxial director and a vector polarization field. A “coarse-graining” approximation is used to simplify the theoretical analysis. There is a great agreement between experimental results and developed model.

Phillips, Melissa

Geography, Presenter Location/Time

Natural hazard education research has received minimal attention. Researchers in the area of natural hazards have focused primarily on database management and safety recommendations. Best practices for natural hazard education and their modes have been overlooked. Current research has postulated that natural hazard education may be more efficacious when delivered to school children since school children disseminate the information to family and friends. Research on the most effective method to educate school children or the general public on natural hazards has seen very little attention, except for a recent lightning safety survey, which illustrated the need for further research, especially regarding school children. This study surveyed school children's safety knowledge in the state of Ohio on two types of natural hazards with variable exposure rates, hurricanes and lightning. Following the survey, three education modes were administered: video, workbook, and presentation. Post-mode and delayed post-mode surveys followed. The results answer numerous study questions regarding sources of hazard information in school children, the current knowledge of lightning and hurricane safety, the most effective mode for natural hazard education and retention, and lightning safety education of school children versus college students.

Pugh, Dana et al.

Pyschological Sciences, Presenter Location/Time

Adolescence is a stage of development during which many youth are subjected to close scrutiny by their peers and hold their opinions in high regard. Furthermore, negative evaluations by peers can be disconcerting for adolescents and negatively impact their well-being. It is not uncommon for adolescents to be ridiculed or teased because they appear different in some way. However, clinicians have become increasingly aware that the acting White accusation (AWA) is particularly distressing for Black youth. The accusation arises when one adolescent accuses another of being not Black enough. Many adolescents have described the accusation as a bullying experience, which has been associated with poorer mental health outcomes. In this presentation, we examine the Pyschological Sciencesological implications of the AWA. Given that the accusation is embedded in ethnic/racial identity (ERI), we explore the relationship between the AWA and ERI. Additionally, we explore the relationship between the AWA, social anxiety, and bullying victimization. Our findings indicated that the AWA is 1) positively associated with social anxiety, 2) positively associated with bullying

victimization, and 3) positively associated with ethnic/racial identity. These data can be useful for researchers, educators and clinicians interested in enhancing their understanding of the AWA.

Putta, Priya

Biological Science, Presenter Location/Time

Phosphatidic acid (PA) is a crucial membrane phospholipid involved in de novo lipid synthesis and numerous intracellular signaling cascades. The signaling function of PA is mediated by peripheral membrane proteins that specifically recognize PA. While numerous PA-binding proteins are known, much less is known about what drives specificity of PA protein binding. Previously, we have shown electrostatic-hydrogen bond switch model as one aspect that drives protein binding to PA. Here we focus on membrane curvature stress induced by phosphatidylethanolamine and show that many PA-binding proteins display enhanced binding as a function of negative curvature stress. This result is corroborated by the observation that positive curvature stress, induced by lysophosphatidylcholine, abolishes PA binding. The established PA targets examined in this study include the mammalian protein Raf-1 kinase, the yeast proteins Opi1 and Spo20, and the plant proteins TGD2, and PDK1. In addition, we show for the first time a novel plant PA-binding protein, Arabidopsis Epsin-like Clathrin Adaptor1 (ECA1), displays similar curvature-dependent PA-binding characteristics. We propose that liposome binding assays are the preferred method to investigate lipid binding where membrane environment is maintained. The use of complex lipid mixtures is important to elucidate further aspects of PA binding proteins.

Raoof, Mohammed Mubeen

Digital Science

Wireless sensor systems are another kind of organized frameworks, described by seriously compelled computational and vitality assets, and a specially appointed operational environment. At the point when remote sensor systems are sent in an unfriendly territory, security turns out to be critical, as they are inclined to various sorts of malevolent assaults. Because of the inborn asset impediments of sensor hubs, existing system security strategies, including those produced for Mobile Ad-Hoc

Networks, are not well suitable for remote sensor systems. As a crucial issue security in remote sensor systems has pulled in a great deal of consideration in the late year. This paper made an exhaustive investigation of the real security issue and displayed the continuous part of further advancement to planners in their battle to actualize the most financially savvy and suitable technique for securing their system.

Rathnayake, Sewwandi et al.

Biological Science, Presenter Location/Time

Amphipathic α-helix bundles are a commonly found structural motif in many lipid associated proteins including apolipoproteins as well as lipid droplet-associated proteins. Examples include insect Apolipophorin III and human Perilipin2 and Perilipin 3 proteins of the PAT family. The α-helix bundles are arranged in a manner in which the hydrophilic residues face the aqueous environment outside whereas the hydrophobic residues are hidden within a hydrophobic core. These proteins are thought to interact with lipids via hydrophobic interactions, but a detailed understanding has not been reached yet. Hence, we employed Langmuir monolayers and Surface Plasmon Resonance to monitor the lipid interactions of the above proteins in real-time. In this study, we systematically varied the lipid composition of our lipid interface in order to investigate the binding interactions of three distinct amphipathic α-helix bundles. These are, apoLp-III (from Locusta migratoria), and the helix bundles from human recombinant lipid droplet-associated proteins, Perilipin 2 and Perilipin 3. Our results indicate that the effective molecular shape of the phospholipid molecules, the charge of the phospholipid head groups as well as their packing properties all determine the binding and insertion of the alpha helix bundles of these proteins in to a given lipid monolayer.

Robinson, Alicia

Sociology, Presenter Location/Time

In light of the fact that African American women are making strides in college enrollment, college completion, labor force participation, entrepreneurship and career development, there is a need to explore the motivational and contextual factors related to the academic achievement of African American women. There is limited research on what contextual factors are motivating African American women to overcome Pyschological Sciencesological and societal obstacles such as

classism, racism, and sexism in order to achieve academic success. Identifying these factors may provide a basis for developing programs to support the academic success of the next generation of African American girls. The Human Ecological Theory (Smith, 2012) suggests that family, school, community and societal factors all may pose barriers to or potentially facilitate the achievement of academic success. The purposes of this study are to examine levels of motivation in a sample of African American women who completed a four-year college degree and to identify the contextual factors that influenced their success. The intended outcome is to provide a foundation and framework for an academic mentoring program with a holistic approach to help facilitate academic success in African American girls.

Rochette, Amber et al.

Pyschological Sciences, Presenter Location/Time

This study examined the prevalence of mild cognitive impairment (MCI) in a severely obese sample (BMI≥35) and possible changes in cognitive function in a subset of patients that underwent bariatric surgery. 171 adults (43.07 Â± 11.21 years; BMI=44.91 Â± 6.70) completed computerized cognitive testing. A subset of participants (n=88) underwent bariatric surgery as part of a larger project and were re-assessed 12 months post-surgery. Objective cognitive decline was defined as â‰¥1 SD below the normative mean on 2+ tasks in a cognitive domain. MCI was found in 53% of participants and prevalent even in young adults (age 18-29=52%). In the surgery subset, MCI prevalence was reduced from 53.4% at baseline to 27.3% at follow-up. When comparing the subset of surgery patients that saw a resolution in MCI from pre- to post-surgery to those that did not, no differences in resolution rates were found for hypertension [Ï‡2(1)=2.5, p=.11], sleep apnea [Ï‡2(1)=.02, p=.90], or diabetes [Ï‡2(1)=.51, p=.47]. The groups also did not differ in age [t(45)=.43, p=.67], BMI at baseline [t(45)=-.75, p=.46], or BMI change from baseline to 12 months post-surgery[t(31) =-.08, p=.94]. Findings indicate that MCI is prevalent in individuals with severe obesity, regardless of age, and often improves following bariatric surgery.

Rossi, Alison et al.

Fashion, Presenter Location/Time

Applying the findings from Clarke and Johnstone to this study, the four (4) key elements are examined in the context of the ten (10) most influential fashion bloggers identified by fashionista.com's list of February 2015. The purpose of this study two fold. First, there is a need to understand why personal style blogs and lifestyle blogs represent the evolved form of fashion blogging and what features appeal to readers, engage them, and serve to sustain the blog and blogger. Second, is to identify, examine, and isolate key characteristics that may positively affect reader engagement and relate those key elements with degree of influence. This study will conduct a survey using fashion students at Kent State's Fashion School to help understand and analyze the fashion blog reader's perceptions of key characteristics which positively affect a blogs ability to sustain itself and increase a blogger's power to shape consumer behavior. The implications of the findings are discussed along with suggestions for future research

Ruth, Aidan et al.

Biomedical Science, Presenter Location/Time

In humans, the Anterior Cruciate Ligament (ACL) is divided into two main bundles; the Anteromedial (AM) and Posterolateral (PL). We sought to determine whether similar ACL divisions occur in animals with differing locomotion. We explored the gross detailed ACL anatomy in 22 mammalian species with both standard and quantitative polarized light microscopy. Traditional light microscopy with picrosirius red staining revealed that the ACL could not be divided into distinct bundles in most palmigrade mammals, including most primates. However, digitigrade animals (Tiger) and especially unguligrade mammals (deer) displayed distinct ultrastructure with demonstrable separation of at least two distinct bundles. Quantitative polarized light microscopy showed that in animals without such ultrastructural divisions, ACL collagen orientation was more variable . That is, the greater the separation between ACL sub-bundles, the less variation occurred in fiber orientation. These results suggest that the ACL of palmigrade animals, which require a greater range of motion at the knee joint, in turn require more differentiation of fiber orientation and length than do digitigrade mammals, and thus display more "blended," coalescent bundles.

Satlykgylyjova, Mayagul

Foundations, Leadership, & Administration, Presenter Location/Time

The number of Central Asian students studying in the United States has been on a steady increase since the collapse of the Soviet Union. Among the many consequences of the influx is that for women, studying in a foreign country carries implications for their sense of identity “” namely, the way they choose to practice their agency and view themselves as well as their intimate attachments and identifications with family, traditions, landscapes, and society at large. Research on identity has undergone a discursive turn in recent years, with a shift from conceptualizing identity as an essentialistic, pre-existing construct that drives social interaction, to a more fluid and hybrid construct that is constituted through discourse. In this paper, I use portraiture methodology to study the ways in which Central Asian women students in American higher education talk about themselves and their identity construction and how they make meaning of crossing cultural, geographical, and Pyschological Sciencesological borders.

Schanfish, Benjamin et al.

Architecture, Presenter Location/Time

As suburban populations move back to the cities, the populations of small urban towns have been shrinking. This paper studies the city of Ashtabula, Ohio; a shrinking town located in between Cleveland and Erie, PA. The city has lost 24.6% of its population since their major industries began leaving in 1960, and is struggling to retain its remaining population and industrial resources. A framework of resilience thinking will be used for the study, beginning with a systems perspective lens of how the city currently works. City officials will be interviewed in order to obtain the city’s perspectives on the issue. Second, the two central themes of resilience thinking: thresholds and adaptive cycles, are applied to the city. Finally, Youngstown, Ohio will be reviewed as a case study for a shrinking city in similar distress. They have applied resilience thinking, and have since attempted recovery through means of urban downsizing and community involvement. The final result will include a proposal of adaption measures for Ashtabula utilizing the resilience thinking model. It is hoped that the conclusions reached in this paper will serve as a framework for Ashtabula, as well as other shrinking cities in Ohio.

Scott, Dylan

Philosophy, Presenter Location/Time

In her book Loving to Know, Esther Meek presents "covenant epistemology." The view depicts human beings as "steward" knowers coming to know God and creation in the context of a lovingly interpersonal and covenantal relationship. Covenant epistemology employs Michael Polanyi's notions of "personal knowledge" and "subsidiary-focal integration," and John Frame's "triad" epistemology. The adoption of former philosopher's ideas is appealing and therefore is not presently contested. However, the normative component of Frame's epistemological triad prevents covenant epistemology from reaching its admirable, reformative intentions. It appears questionable whether such emphatic normative appropriation of knowledge is resilient enough to account for religious knowledge of God, or knowledge of oneself as an embodied knower. I consider the possibility that, to the extent that knowing the world is an interpersonal or religious enterprise, we should observe the inadequacy of normative criteria to fully comply with or justify the convictions we hold about ourselves as knowers, and God.

Selvam, Sangeetha

Chemistry & Biochemistry, Presenter Location/Time

Negative superhelicity at the trail of a transcription bubble is expected to facilitate the formation of DNA tetraplexes (G-quadruplex and i-motif), which, in turn, modulate the transcription. To allow an efficient feedback, tetraplexes should well respond to the ever changing template superhelicity amidst other factors, such as molecular crowding, that are homeostatic in vivo. In this work, by mechanical unfolding of single-molecule duplex DNA in laser tweezers, we quantified for the first time the chemical (ions and pH) and mechanical (superhelicity and molecular crowding) factors on the population dynamics of DNA tetraplexes in double-stranded DNA from insulin-linked polymorphic region. We found that while ions and pH have the largest effects on G-quadruplex and i-motif populations in duplex DNA respectively, superhelicity has the second largest effect, followed by molecular crowding, both of which are non-specific to tetraplex species. The substantial dependence of tetraplexes on superhelicity provides strong support that DNA tetraplexes can serve as topological sensors for processes such as transcription.

Shackelford, Philip

History, Presenter Location/Time

This thesis will explore the early history of the U.S. Air Force Security Service (USAFSS) and examine the functions that the Air Force expected the organization to fulfill. As an intelligence organization focused primarily on gathering communications intelligence (COMINT) relating to the Soviet Union, the USAFSS was the result of several years' careful planning and was established in the midst of intense debate regarding the future organization of the U.S. military intelligence community. For much of this debate the Air Force was opposed to the unification of military intelligence efforts, changing its vote only after being assured of its subsequent independence. Therefore, this study will ask what motivated the Air Force to construct a COMINT organization, how it envisioned this organization taking shape, what functions it was expected to provide, and whether or not the USAFSS was successful in achieving those goals during the early Cold War.

Shakarian, Pietro

History, Presenter Location/Time

In February 1828, the Russian Empire annexed the historical Armenian province of Erivan (Yerevan) from Persia. The province included Mount Ararat, a symbol of Armenian national and spiritual identity, said to be the resting place of Noah's Ark. The mountain had never before been scaled in recorded history. Explorer Friedrich Parrot of the University of Dorpat (now Tartu, Estonia) decided to take on the challenge of climbing Ararat. In 1829, he traveled to the Caucasus with an expeditionary team. Accompanied by Armenian writer Khachatur Abovian, he eventually reached the summit of the mountain. His memoirs of the expedition, "Journey to Ararat", were later published in both German and English. This presentation will highlight the research behind the new republication of the English edition of Parrot's book by KSU PhD Graduate Student Pietro Shakarian. This new edition includes a critical introduction, new maps, and historical documents from Estonia and Armenia regarding Parrot's expedition. It also includes restored illustrations from the original English edition of Parrot's book, reproduced with the assistance of the Cleveland Public

Library's John G. White Special Collection of Folklore, Orientalia and Chess and Digital Public Library.

Shakya, Sunita et al.

Public Health, Presenter Location/Time

Failure to thrive (FTT) is a term that describes inadequate growth or the inability to maintain growth in early childhood. The objective of our study was to understand how cultural practices associated with pregnancy, childbirth, and motherhood influence FTT among children in a resettled Bhutanese refugee community in the U.S. We conducted a series of focus group interviews with 21 Bhutanese mothers who had at least 1 child under the age of 18.The participants' ages ranged from 23-45 years and they resettled between 2008-2014.Focus groups were transcribed into Nepali and then translated to English for analysis. Data were analyzed using descriptive open coding and assessed for emerging themes. Emergent themes included: Navigating the food environment, Cultural expectations for pregnancy, Advice as support or hindrance, and cultural practices versus clinical recommendations.In regard to childhood feeding practices, our results suggest that participants perceived a growing preference for American food among their children, regardless of age. These preferences and expectations may have implications for the children's health that warrant further examination in the context of FTT.

Sharag-Eldin, Adiyana et al.

Geography, Presenter Location/Time

The recent development of unconventional natural gas fracturing or "fracking" has generated a controversy worldwide. The purpose of this paper is to examine and analyze the public perception of fracking from geo-located twitter data collection. The authors will apply a methodology of meme diffusion concept developed by Spitzberg (2014). The theory is called Multilevel Model of Meme Diffusion (M3D) involving diverse sets of social dynamics to predict public opinions related to human interaction and environmental concerns. A meme is any popular words in a text, a paragraph, or an image that can be copied and replicated by the users of social media. The replication of memes

is defined as innovation diffusion. The texts spread as memes in a process of diffusion through communication platforms such as a phrase in email or other digital messages. The application of the M3D theory is tested in case studies between two states, Ohio and Pennsylvania with extensive drilling occurring in the region. Pennsylvania has emerged as one of the nation's leaders in terms of the number of fracturing sites. Ohio has started the fracturing operations following the Pennsylvania experience. The opening of fracking activities in Ohio has generated high levels of public debate and policy development related to this issue. These differences in public opinions between two stated will present a valuable opportunity to examine the M3D theory. The theory integrates the fields of geography and computer-mediated communication technology to predict social phenomena.

Slocum, Jeremy et al.

Pyschological Sciences, Presenter Location/Time

When asked to find the referent of an unfamiliar label, young children select a novel object over a familiar one. This so called “disambiguation effect” led researchers to theorize about the strategies children use when learning new words. While most of the existing research has investigated simple, statistical or logic-based strategies, we are interested how children learn when these strategies are not available. The current study introduces a purely metacognitive “disambiguation” task where, in order to succeed, children must possess a more abstract representation of language. Preliminary data suggests an age trend. 4-year olds are more likely than 3-year olds to succeed in the metacognitive task, and this trend is consistent with previous studies on children’s metacognition. The current study also examines the role of corrective feedback on children’s performance.

Smith, Erik

Geography, Presenter Location/Time

Periods of extreme cold impact the mid-latitudes every winter. Depending on the magnitude and length of the occurrence, extremely cold periods may be identified as cold air outbreaks (CAOs). Differing criteria exist to quantify a CAO in order to suit the purpose of the research. It is proposed that the intensity and preferred location of CAOs will change in the future. Model projections show

greenhouse warming may contribute to an increased meridional flow, leading to more temperature extremes and an increase in blocking patterns which result in longer lasting temperature anomalies in mid-latitude regions. Atmospheric teleconnections impact the displacement of polar air, but the relationship between the primary teleconnections and the occurrence of CAOs is not fully understood. This research aims to classify CAO circulation patterns through the use of self-organizing maps (SOMs) in order to depict the dataset as a continuum. This method characterizes patterns better than discrete representation and provides insight as to how specific teleconnections impact the atmospheric flow in a way that leads to CAOs in the Eastern United states.

Smock, Carissa

Public Health, Presenter Location/Time

Introduction: Physical inactivity is an important public health problem highly prevalent in US adults increasing all cause mortality and morbidity and associated costs. Exercise prescriptions (EP) are a an economical solution. Physician association and government policy initiatives support physicians and patients uptake of exercise prescriptions. This study will identify the role that physicians training and experience with patient exercise prescription plays in physician acceptance of exercise prescriptions. Methods: Current physician training, governance, delivery modes and definitions of EP are identified. Evidence based policy solutions due to recent changes in the government and institutional environments are analyzed. Results: The existing knowledge base of physical activity education needs to be utilized by physicians to prepare and fill the need for increased physical activity including continuing education, fellowship and residency training programs. Multiple areas of provider incentives need to align with physician governance for exercise prescriptions including reimbursements, credentialing, licensure, and periodic schedules. Conclusion: Physician training and experience in EP has some policy support at the institutional and government levels. EP creates a financial structure to motivate insurance companies, physicians, and the population at large with evidence that, in some cases, it can be more effective that the current pharmaceutical prescriptions.

Snigdha, Snigdha

Computer Science, Presenter Location/Time

How Many times have your Mom failed to understand the most basic command on computer/mobile. How many times have you regretted sighing at her for not understanding most basic functionalities of computer/mobile/app. How many times out of guilt have you tried again and gloriously failed to teach her. How many times have you equated mothers to Technology Dwarves? We intend to create a website/app intended just for mothers BY the mothers. This Teaching Course CRM is just like any other online teaching course but with a twist. Instructor here is not some Microsoft Certified Professional with all the knowledge of rocket science, But Mothers themselves. We intend to teach mothers first and then those with the most clarity of concept and simplest of explanations will be used to deliver this course. This Course will provide mothers with the option of chosing from the following categories of Mothers as per their comfort level: Working Mothers, Stay-At-Home Mothers, Socialite Mothers. With lots of certficates and appreciations to be awarded at completion of chapters and no negative scoring of any kind is intended to make Mothers empowered in the most effective manner. This website aims at bringing Mothers together and making them a strong community.

Socha, Daniel

Journalism, Presenter Location/Time

As individuals seek refuge from war, conflict, political circumstance, and threats of violence, countries around the globe are increasingly tasked with resettling refugees by providing support, resources, and safe havens in which to begin new lives. As a result of this influx, organizations have developed processes to streamline refugee resettlement in host countries, such as the United States. However, resettlement processes may potentially obscure the complexities of different people, situations, perspectives and regions of the world. This study employs postcolonial theory to analyze how one refugee cultural orientation curriculum website, designed to guide resettlement agencies, discursively constructs an image of the ideal refugee. Findings of this thematic analysis call attention to three tensions of an ideal refugee as: (1) helpless and self-sufficient, (2) intelligent and ignorant, and (3) burdensome and valuable. Taken together, these tensions create a conflicting image of an ideal refugee that homogenizes difference, rationalizes the resettlement process, and commodifies the refugee. This analysis demonstrates how a resettlement process can simultaneously abdicate the organization from responsibility and offer refugees possibilities for resistance. This study offers practical guidance to assist refugee resettlement agencies in conducting cultural orientation and other resettlement processes.

Starcher, Shawn

Journalism, Presenter Location/Time

Depression is the leading cause of disability worldwide and has a heavy influence in many settings, including the family environment. While there have been many studies that have focused on depression, few have focused specifically on depression within the context of the family environment. More specifically, how do family members share their struggles with depression when seeking the social support that they need within their family and how might these disclosures impact the relationships between parents, children, and siblings? This presentation lays some of the foundation for understanding this unique phenomenon and offers evidence for why this area of research is so important from the perspective of parents and children in the family environment.

Stuart, Kaela et al.

Pyschological Sciences, Presenter Location/Time

The current study investigated links between parent and child anxiety, and family process factors, over a 9 year period. Specifically, we examined the role of partner conflict, attachment security and parental autonomy granting in explaining changes in child, father, and mother anxiety symptoms. We utilized data from the NICHD Study of Early Child Care and Youth Development (N= 661), from when target children were in first grade (6 years), fifth grade (10 years), and 15 years of age. We tested a longitudinal path model including both fathers and mothers, and found that the model was a good fit for the data. We also found that lower attachment security to fathers and a restriction of maternal autonomy granting predicted which children maintained anxiety into adolescence. Partner conflict explained the association between earlier and later parental anxiety, which is a novel finding in the literature. Together, these findings suggest that fathers play an important long-term role in child anxiety, alongside the role of mothers.

Stumpo, Gordon et al.

Fashion, Presenter Location/Time

Parametric modeling allows the user to design and manipulate objects in a virtual digital workspace and prepare the object for printing in materials such as plastic, ceramic, and metal. A dress form is a tool used by fashion designers to check the fit and proportion of garments they are designing for men, women, and children alike. Traditionally, these display forms are made of plaster or foam and covered with padding and sturdy cloth. Several companies manufacture these forms, each with their own sizing and measurement standards. Through the use of the 3D parametric modeling software Rhinoceros, parametric coding software Grasshopper, and laser cutting, it is possible to create custom fit dress forms or display forms in the shape of your model or yourself. From this process, designers can create custom dress forms and display forms (of themselves or fit models) and know that they will be the same size, avoiding fit issues when put on different sized forms in a retail setting. Applying this CAD technology to part of the apparel design process helps bridge knowledge from fields of art, design, architecture, and industrial production, allowing for truly interdisciplinary collaboration and creation, expanding the skill set of modern designers.

Surrarrer, Caroline

Fashion, Presenter Location/Time

The history of American ready-to-wear is filled with unknown fashion designers, most working "behind the scenes" for a manufacturer. One was Elizabeth "Libby" Miller Payne (1917-1987), whose career spanned fifty years in the moderate price-point segment. The purpose of this study was to investigate the life and work of Libby from the 1930s through 1980s, situating her in the context of the mid-twentieth century American fashion industry, and utilizing her history to understand the evolution of designers, retailers, and consumers during this critical time. Not one to be lost to history, Libby compiled a detailed notebook including memories, sketches, advertisements, fabric samples, and patterns documenting her life and career. Through content analysis of the notebook and one-on-one interviews this research discovered the experience of an unknown predecessor to the modern, label-bearing American fashion designer. Over her career in nearly 30 different positions, Libby designed garments under well-recognized labels such as Bobbie Brooks and Jonathan Logan. Her designs "sold like hotcakes" at stores all over America. One of her most

successful, Bobbie Brooks Style #862, sold 100,000 in its first two months on the market. A talent for design and a unique understanding of marketability resulted in Libby's success.

Testa, Joshua et al.

Political Science, Presenter Location/Time

Public organizations operate as open-systems. As such, exogenous perturbations in the environment can affect organizational performance. Much of the time management buffers these shocks to maintain performance through both managerial strategies and organizational structures. To this extent, the literature commonly assumes shocks in the environment are largely unanticipated, resulting in a precipitation of negative effects to an organization's internal operations and processes. We argue exogenous perturbations can take on two different forms: anticipated and unanticipated shocks. Based on the level of managerial anticipation, we argue public managers will adopt strategies that resemble those of disaster preparedness as opposed to managers focused on the recovery-oriented aspects of management. We test this argument by empirically examining the effects of an anticipated and unanticipated shock on the performance of Texas public school districts.

Thanikaikumaran, Sumirtha

Chemistry & Biochemistry, Presenter Location/Time

The piwi interacting RNAs (piRNAs) are small non-coding RNAs mostly 24-32 nucleotides in length. Among all types of non-coding RNAs, piRNAs are by far the most numerous, existing only in animals. The piRNAs are defined by their specific binding to the PIWI proteins, a requirement for their function. The piRNAs do not have conserved secondary structure, because piRNA sequences are not known to contain any conserved motifs. Using bioinformatics analysis, we discovered the presence of putative G-quadruplex (GQ)-forming sequences in human piRNAs that is higher in number compared to the piRNA pools of other organisms that were analyzed [5.5% GQ forming piRNA sequence in human while less than 1% in other organism). We investigated the propensity to form the G-quadruplex structure in one (piRNA 48164) of the potential GQ forming sequence in human. Circular dichroism and RNase T1 footprinting data confirmed the formation of stable G-

quadruplex structure by piRNA 48164. Further studies are underway to analyze the effect of PIWI protein binding on GQ forming piRNAs and the role of GQ in piRNAs function. These studies begin to unravel the role of GQ in piRNA function.

Todaro, Rachael et al.

Lifespan Development & Educational Science, Presenter Location/Time

Typical mathematics practice requires that students implement a solution strategy immediately after a lesson is given on that particular problem type. However, interleaving, or practice across a set of dissimilar problems, improves learning and transfer by increasing discrimination of problem features. Similarly, comparing problems across different contexts highlights relevant and irrelevant knowledge. We investigated the relative effects of problem and context comparisons in interleaved practice using two different math skills, across four problem types, placed in two different contexts. 44 fifth-grade students received the same practice problems but were randomly assigned to one of four conditions: blocked by math skill, interleaved by math skill, interleaved by context, and interleaved by math skill and by context (i.e., hyper-interleaved). A repeated measures analysis was conducted to measure change at each data point. All students made significant gains from pre-test to post-test and from pre-test to delayed post-test. Preliminary analyses suggest that the interleaved by math skill condition made the greatest gains on post-, delayed post-, and transfer tests. Additionally, the interleaved by math skill group had the least amount of loss at the 30-day delayed post-test and the delayed transfer test. Considering the sample is quite small, more data is currently being collected.

Tokosh, Joe

Geography, Presenter Location/Time

Shopping spaces are changing rapidly along with the retail industry. Consumer preferences and technological innovations are forcing retailers to adapt in order to stay competitive. This presentation is the beginning work of a dissertation, where a comprehensive typology of shopping malls will be compiled and analyzed for exogenous and endogenous factors that influence performance. The

second part of the study will qualitatively analyze how malls are adapting to the environment around them.

Toth, Wesley

History, Presenter Location/Time

On September 19th, 1861, the 79th Pennsylvania Infantry was formed in the town of Lancaster. Colonel Henry A. Hambright was initially in charge of the regiment and drew recruits from Lancaster and Washington Counties. In the early years of the American Civil War, the 79th was attached to the Army of the Ohio. The "Lancaster Rifles," the nickname Lancaster locals gave to the regiment, spent much of the war in the Western Theatre in places like Chickamauga and Chattanooga. From January 1863 until July 12th 1865, the 79th was transferred to the Army of the Cumberland and found themselves fighting the Confederates in a pivotal moment during the war: Sherman's March to the Sea. The fact a local regiment was involved in the March to the Sea, a campaign that was hundreds of miles away from home, makes them a fascinating case study of wartime experiences of lesser known regiments. This research paper illustrates that the 79th's early experiences in the Western Theatre established a hardy reputation that high-ranking Union officers readily recognized. Particular attention is paid to the formation of the regiment, its military structure, and its involvement with the Siege of Atlanta Sherman's March to the Sea campaign.

Traynor, Kristen

Political Science, Presenter Location/Time

In 2005, the largest hunger strike in the history of GuantÃ¡namo Bay prison erupted and brought widespread media attention to prisoner treatment there. However, scholars have focused little attention on this issue, preferring to study the more extensively covered Abu Ghraib case. This paper examines which competing frames gained the most attention from the mainstream news media and traces the frames to their sources in order to determine who influenced their use. The purpose is to determine the extent to which portrayal of prisoner treatment within the governing elite influenced (or did not influence) the media's descriptions of the situation and, therefore, the way the public

understood the way in which prisoners were treated. In the study, I use QDA Miner with WordStat to perform a mixed-methods content analysis and process-tracing analysis of statements made by government officials in the executive and legislative branches, as well as news coverage from three elite news outlets. The goal is to determine the level of press autonomy in framing prisoner treatment during this hunger strike period.

Varanytsia, Andrii

Liquid Crystal Institute, Presenter Location/Time

This work demonstrates a bistable and photoswitchable diffractive liquid crystal light shutter based on self-assembling bubble domain (BD) texture of cholesteric liquid crystals (CLC). The BD texture is generated in CLC confined into a glass cell with homeotropic surface alignment and equilibrium CLC pitch approximately equal to the cell gap thickness. Modulation of transmitted light intensity is achieved by switching between transparent homeotropic and diffractive BD textures of CLC using applied electric field. The optical density of diffractive BD texture is controlled by a reversible light illumination induced trans-cis isomerization of azobenzene type chiral dopant of CLC and by doping CLC with a dichroic dye. All optical states are stable in rest after applied electric field or light excitations are removed and the switching is completed. Due to the ability to modulate a broad range of the wavelength of light from UV to near-IR a bistable BD texture dye-doped systems provide promising applications for the wide range of diffractive photonic devices and optical light shutters.

Vincent, Stephanie

History, Presenter Location/Time

Welfare capitalism developed in the late nineteenth century as a way to offer benefits to industrial workers in order to stave off unionization. Methods could take several forms, such as incentive pay for years worked or quality of output, health and unemployment insurance, and social programming designed to foster a spirit of brotherhood. This paper will take on the specific example of the American pottery industry and trace how management used welfare capitalism techniques and how these incentives had an effect on employee morale and public perception of the plants. I will be

focusing on three of the major production centers in the United States: the Onondaga Pottery, the Shenango Pottery, and the Homer Laughlin China Company. At these locations, employers focused on creating social and recreational spaces for their workers as a way to keep peace during the early twentieth century when strike activity threatened or damaged labor relations in many other industries. Gauging pottery's success can give greater insight into the function of welfare capitalism both as a means to achieve harmony inside the plant and as a public relations tool to give outside observers an understanding of the achievements made by this American industry.

Walker, Alan et al.

Visual Communication Design, Presenter Location/Time

In light of recent global news events in Europe, our group has identified the need for people to find shelter in times of crisis. We acknowledge that many communities have embraced an altruistic perspective in offering the use of their homes through existing social media outlets. However, we believe that through creating a formal system to facilitate the process of crowdsourcing short term shelter, people will more effectively receive aid. Our presentation outlines Convoy, a mobile application, that allows users to host those displaced by a crisis situation, and receive aid themselves when traveling.

Wang, Junren

Chemistry & Biochemistry, Presenter Location/Time

Incorporating functional materials into thin fibers is of recent interest in order to produce smart textiles. In this talk, I will present the fabrication of liquid crystal/polymer core/sheath fibers by two techniques - electrospinning and airbrushing. Electrospinning or airbrushing a homogeneous liquid crystal (LC) and polymer solution results in solvent evaporation and phase separation of LC and polymer producing a fiber consisting of an LC core surrounded by a polymer sheath. Both techniques allow for facile fiber fabrication but also appear to have unique advantages and disadvantages. These LC/polymer fibers incorporate the sensitive stimuli response (such as electro-optical and thermo-optical behaviors) of LC while maintaining the structural integrity, flexibility, and large surface-area-to-volume ratios inherent in fibers. While of general scientific interest, the stimuli responsive fibers show great application potential in wearable electronics and sensors.

Weis, Kristin

Philosophy, Presenter Location/Time

From its precursors in the 1950s and 1960s to its full emergence on the art scene in the 1970s, conceptual art has been met with controversy, criticism, and disgust. Conceptual art challenges the very notions that many people hold about art "" namely, that art must be beautiful, visual, and arise within the viewer some kind of Applied Engineering, Sustainability, & Technologyhetic emotion. Many Applied Engineering, Sustainability, & Technologyhetic theories proposed by philosophers such as Kant, Dewey, and Greenberg only reinforce these ideas, thus relegating conceptual art to categories such as the "vulgar" and "mundane." Other theories offer a more inclusive definition of art that create a space for conceptual art in the art world. In this paper, I will be examining both definitions of art that exclude conceptual art and those that include it. I will ultimately argue for why conceptual art should be considered art and why a more inclusive definition of art that includes conceptual art is preferable to one that does not.

Weissman, Nancy

Lifespan Development & Educational Science, Presenter Location/Time

The purpose of this dissertation research study is to explore the effectiveness of the online synchronous environment in establishing social, cognitive and teaching presences. In this mixed-methods study survey data is being collected to measure the relationship between perceptions of social, cognitive and teaching presence in the synchronous online environment (live attendance) and a recording of a synchronous online session. Coding of chat transcripts are being analyzed for those students who attended the live session along with open ended feedback gathered from the surveys, course instructors or feedback sent directly to the librarian (i.e., researcher) and will be used in the triangulation process of the study. This presentation will detail the process and product of coding the chat transcripts as they provide rich information to the study. The qualitative feature of the study not only complements the survey data but presents an opportunity to explore how student participation affects social, cognitive and teaching presence as well as how teaching presence

supports and enhances social and cognitive presence. The presentation will address the nature of the mixed-method study and the benefits of conducting this type of research methodology.

Willer, Christopher

Geography, Presenter Location/Time

This research is an exploratory case study into the processes behind the redevelopment of the Elmwood Strip into the Elmwood Village, a neighborhood commercial district in Buffalo, NY that had suffered from economic and social decline during the 1970s into the early 1990s. Through semi-structured interviews, archival newspaper sources, and analysis of planning and policy documents, I investigate the redevelopment processes for the Elmwood Village case. Initially dependent upon the formation of a key local institution, the Elmwood Strip developed into the Elmwood Village through a number of urban plans and policies put in place on multiple scales.

Wilson, Gina et al.

Biomedical Science, Presenter Location/Time

Glaucomatous neurodegeneration is the second leading cause of irreversible blindness worldwide. As with other neurodegenerations, structural loss is preceded by axonopathy and axonal transport deficits. Aberrant cytoskeletal proteins and microtubule-destabilizing factors could be initiating factors in disease pathogenesis. We investigated whether post-translational phosphorylation of neurofilament-heavy chain and tau contribute to axonal transport deficits and axonopathy in the DBA/2J mouse model of age-related glaucoma.We found elevations in phosphorylated neurofilament-heavy chain (pNF-H) within the optic nerve (ON) and superior colliculus (SC) of early glaucomatous DBA/2J mice (8-10 months old) as a function of anterograde transport integrity. Elevations in retinal pNF-H were observed much later, suggesting that cytoskeletal modifications first appear distal to the eye. Elevations in phosphorylated tau (ptau) occurred in the ON and SC between 3-8 month of age, with ptau accumulations occurring in the retina of late stage (12-15 months) DBA/2J mice. Preliminary co-immunoprecipitation data suggest this somatic accumulation is due to increased affinity of ptau for the retrograde motor protein, dynein.These data

demonstrate the distal to proximal relationship of cytoskeletal modifications in the progression of glaucoma. Thus, targeting cytoskeletal modifications preceding transport loss and axonopathy in glaucoma may provide a unique opportunity to slow disease progression.

Wilson, Kevin Alexander

Music, Presenter Location/Time

Weepers for flute and clarinet duo is a work attempting to bridge a gap between the past and present, and traditional and contemporary repertoire. Weepers utilizes contemporary techniques but in a more conservative melodic environment. The title is a reference from the original inspiration for the work; what is now categorized as Brazilian nationalist music (choros) and Heitor Villa-Lobos. As you will hear in the work, it pays homage to Villa-lobos through his work with choros. Weepers explores these nationalistic tendencies and expands on the tresillo in its two movements.Weepers will be performed by Elizabeth Root on flute, and Elizabeth Carney on Clarinet.

Winter, Carol

Foundations, Leadership, & Administration, Presenter Location/Time

The feminist ethic and organizational leadership theories provide the conceptual framework for this examination of women superintendents as they negotiate their work as school district leaders. Women comprise approximately twenty-four percent of school superintendents nationally. However, women's representation remains higher in the general population, teaching force, and principal ranks with fifty-one percent, seventy-six percent, and fifty percent respectively (Coopersmith & Gruber, 2009; "Documentation to the NCES Common Core of Data Local Education Agency Locale Code File: School Year 2005-06," n.d., "U.S. Census Bureau: State and County QuickFacts," n.d., Women in the Labor Force: A Databook, 2013; Grogan & Shakeshaft, 2011). The goal of this study is to explore the influence of the feminist ethic and organizational leadership theory on women's work as superintendents. Using a grounded theory approach, data generated by the interaction and interplay of the feminist ethic and organizational leadership theory on women superintendents' actions, motivations, and goals as leaders will be used to formulate

theory and add to the current body of literature on women superintendents (Charmaz, 2006; B. S. Cooper, Fusarelli, & Carella, 2000; Glaser & Strauss, 1967; Hatch, 2002; Merriam, 2009; Young & Mcleod, 2001).

Woodson, Theo

Applied Engineering, Sustainability, & Technology, Presenter Location/Time

The need for reliable and renewable energy and power systems is becoming more important to advance beyond traditional methods of energy generation. Research and development in clean energy technologies is growing, and their implementation will be crucial in overcoming these challenges. Among the most promising of these technologies are fuel cells: electrochemical conversion devices that transform the energy in a fuel directly into electricity. A fuel cell consists of an anode, cathode, and electrolyte. Among the five major types of fuel cells, solid oxide fuel cells (SOFCs) are an excellent choice, due to their fuel flexibility, high energy density and portability. Recent freeze casting and freeze drying fabrication techniques provide an exciting path for improvement of SOFC performance, and will lead to lower costs and increased readiness for commercialization. Experimental procedures and equipment have been developed and tested for multi-cell fabrication of tubular form anode substrates. The new process aims to increase gas diffusion and reduce activation and polarization resistances, thereby increasing performance and power output. By utilizing the crystal growth patterns of ice, hierarchically acicular gas channels have been demonstrated and the process proves to enhance capabilities of the cell, as is shown in a scalable and simple process.

Wu, Mengjiao et al.

Lifespan Development & Educational Science, Presenter Location/Time

Two Psychological constructs, executive functions (EFs) and metacognition are often described as associated with learning processes. They provide explanations for many important learning skills and strategies such as goal setting, problem identification, problem solving, etc. However, little attention has been paid to the relation between them. This study explored their relations in an attempt to

bridge the gap in the current understanding of these constructs. As such, the current study attempted to answer the following question: Does knowledge monitoring accuracy correlate to any component EFs among college students? Seventy-three undergraduate participants were required to complete five tasks in two one-hour sessions. Metacognition was measured using a knowledge monitoring accuracy (KMA) test. The component EFs, updating, inhibiting, and shifting were measured using the ABCD Working Memory (WM) task, the Stroop Color-Word Interference task, and the Letter-Number task respectively. The Tower of Hanoi task was used to measure complex EFs. The results of multiple regression analysis suggest that updating in working memory and the ability to inhibit responses are related to accurate knowledge monitoring. Theoretically, accurate knowledge monitoring requires one to update the contents of working memory while inhibiting inaccurate responses. The two executive functions working together would support accurate knowledge monitoring.

Xu, Tinghe et al.

Applied Engineering, Sustainability, & Technology, Presenter Location/Time

Energy is an essential part of our daily lives and it has huge and increasing demand. As we know fossil fuels are going to extinct in the future, we need to move on to renewable energy resources. The best solution to overcome this problem is usage of renewable energy sources which is non-polluting and best efficiency. The present work is to convert abundant solar energy into useful electricity through fuel cells. Fuel cell is one of the best devices for long term energy because we can supply hydrogen steadily and the best method to produce hydrogen is through electrolysis of water. The entire process is divided into two generative modes: sun mode and moon mode. During the sun mode the solar energy is used to produce electricity and hydrogen. The hydrogen is stored for future use. During moon mode the stored hydrogen is used through fuel cell to produce electricity. This paper is to demonstrate the principle of a solar-fuel cell hybrid power system by a combination of solar photovoltaic (PV) modules, fuel cell stack and electrolyzers, hydrogen storage tank, and power conversion devices to generate a small amount of electricity.

Yarava, Anusha

Public Health, Presenter Location/Time

The role of a clinical pharmacist is to maximize the clinical effects of medicines by ensuring the selection of the most effective drugs for each patient, minimizing adverse drug events by monitoring the drug therapy course of the patient and improving the patient's adherence with the drugs. To implement the clinical pharmacist activities in identifying drug therapy problems and improving medication adherence for a better patient care. The prospective observational study was conducted over a period of 6 months. The necessary data was collected from in-patient case notes, treatment charts, interview with patients or patient care givers and nursing staff. The collected data was analyzed to determine the patient drug therapy problems. This study was conducted in a tertiary care hospital for a period of 6 months. A total of 112 patients drug therapy were followed during the six months study period out of which 95 patients had drug therapy problems (DTPs). A total of 182 DTPs were identified in 95 patients, the frequency of DTPs was 1.9 percent per patient. Among 182 DTPs 102 (56%) were identified in males and 80 (43%) were identified in females. The identified DTPs are Adverse drug reactions 4 (2.19%), Interactions 118 (64.84%), Drug selection 56 (30.77%), Drug use 3 (1.65%), Monitoring 1 (0.55%) and Patient/Provider 12 (35.29%). In our study we have showed the importance of clinical pharmacy services in identifying drug therapy problems, so that they can be minimized to decrease the chances of morbid condition and improve better patient care.

You, Yi et al.

Chemistry & Biochemistry, Presenter Location/Time

The emergence of ambient desorption/ionization mass spectrometry (ADIMS) enabled convenient, direct analyses of samples with minimal sample preparation. Unfortunately, chemical background and matrix ions can preclude detection of low-abundant analytes. Furthermore, conventional background subtraction approaches are difficult to implement in ADIMS analyses due to random variation in background signals. One potential treatment approach is cross correlation, which has been used heavily in MS data processing, but typically for spectral library matching to identify analytes. In those cases, however, the time-domain information of the signals is discarded. Here, we propose cross correlation of chronograms to gauge the similarity of all ions in a spectrum; differentiation of ions stems from chemical information encoded in the time-domain signal variation,

often viewed as “noise.” Initial investigation of this data-treatment approach focused on correlation of an analyte ion chronogram with three other chronograms: that of the same analyte, that of another analyte in the sample, and that of a chemical-background ion. As a result, the complex mass spectrum originally containing 1447 peaks was simplified to only 284 MS peaks, more than 80% reduction in spectral complexity. Prospects for this cross-correlation approach to distinguish ionization pathways and even isomers will be discussed.

Yuan, Xiaorong

Music, Presenter Location/Time

Ethnic minority rock music in China appeals particularly to urban middle-class youth, most being of the Han majority. Such rock bands are perceived as being more authentic than mainstream musicians. This sense of “authenticity” is supported through a range of symbols, such as drawing from folk music roots, use of local languages, and representation of working-class' real life, especially migrant workers, who have recently become prominent in urban China. This paper focuses on one such ethnic minority indie band in China, Shanren, which presents the association with authenticity in modern China. Ethnic minority indie bands are interested in shaping their own identity in contrast to the officially promoted minority music scene found in mainstream media. Shanren, as an example, seeks to represent themselves as connected with “nature and reality,” instead of being motivated by modern trends in music and culture. However, the authenticity suggested in minority rock is ripe for discussion of “authenticity vs. modernity,” as well as “nationalism” in the context of modern China, where nationalism can be considered a hybrid imbued with different potential meanings of nation and music, as well as how these terms are defined by different audiences.

Zemanek, Laura et al.

Geology, Presenter Location/Time

The Huff Run Watershed (Mineral City, Ohio) covers 14.1 square miles, and was mined for coal, limestone, and clay from 1853 to 1970. Coal mine tailings account for approximately a third of surface sediment within the watershed. Acid mine drainage (AMD) leakage through these materials

has resulted in a long-term non-point source of acid and metal loading to the watershed that has eluded restoration attempts. Some of these tailings piles have weathered into soils over time (apx. 50 years); however, little is known about soil development on coal mine tailings, or how pedogenesis impacts the rate of release of toxic elements such as Cu, Zn, As, and Se that are originally associated with pyrite in the parent shale material. Ultimately, we aim to determine how mineralogical transformations in soils developing on coal mine tailings impact trace metal mobility. Here, we compare the chemical and physical properties of soils collected to 1 m depth from vegetated hilltops underlain by either mine tailings or undisturbed shale that is equivalent to the tailing parent material. With the data collected, we will be able to quantify how much contamination is being released from a nonpoint source in the Huff Run Watershed.

Zhang, Tianhong

Foundations, Leadership, & Administration, Presenter Location/Time

For the higher education institutions with intention of internationalization at home campus, all students are expected to have developed intercultural competence as a student learning outcome through intercultural interactions between international and domestic students (Deardorff, 2006). However, when institutions discuss application of intercultural knowledge and strategies in new situation, their examples predominately focus on well-defined communication tasks for international students that promote applying specific cross-cultural knowledge and strategies to their host campuses, without application examples that would prompt both of international and domestic students to significantly modify or adapt their prior knowledge and strategies for “transfer” to new intercultural situations. At this point, intercultural educators and institutional administrators need to re-state the initial question and ask themselves: how do we understand “transfer” for the sake of intercultural competence development? Using Meyer and Land’s (2006) discussion of threshold concept as a frame, based on the qualitative study on intercultural interactions from relational perspective between international and American graduate students in a U.S. Mid-Western university, with analysis of the interviews in depth, the article first examines “transfer” as a threshold concept in intercultural competence development: troublesome, transformational, irreversible, integrative, bounded and discursive. Within this frame, this article then discusses implications for

international and intercultural educators interested in promoting intercultural competence development among international and American domestic students.

Zhu, Shasha

Art, Presenter Location/Time

This study focus on how this Chinese traditional religious sacrificial vessel adopted into American local jazz and ragtime bands as the musical instrument skulls' after the Chinese diasporas caused me greater study interest. This paper explores how Wooden Fish was brought transpacific into the United States following the early Cantonese migrants. Wooden Fish recorded the sentiments of the beginning of the immigrants' wives who only can stay at home abandoned and lonely in the United States. The tragic tones of it are corresponding to describe the grief and distress of these female immigrants that ensure this religious sacrificial vessel gradually popular among Chinese Americans and then existence in the New York, Los Angeles, and San Francisco's Chinatown. This study further explains that the gradually disappeared original characteristics of Wooden Fish, as a religious sacrificial vessel that is used to accompany Buddhist chant and call monks together. People began to consider it as a thoroughly musical instrument and developed its musical functions. According to Wooden fish's musical characteristics of play rhythm as a drum and play tones from its carved hollow slits, it was made in chromatic sequences by the maker to evolved its tones in the late 20th century. Then, Wooden fish became a purely musical instrument entered in jazz and ragtime bands as the drum set. Analyzing the evolved process of Wooden Fish draw a conclusion that the disappeared original religious and social functions of slit drums are used for communication or religion after they existed in a new environment. Musicians and makers developed their musical characteristics to adapt to the new environment.

Poster Presentations, Listed Alphabetically by First Author

Adhikari, Binaya et al.

Biological Science, Poster Location

Eukaryotic organisms, such as plants and animals, are expected to inherit genes from both parents in predictable ratios: half of the offspring's nuclear genome should come from each parent, and in most eukaryotes, all of the organellar genes should come from one parent, typically the mother. Plants have two sets of organellar genes mitochondrial and plastid. If maternal transmission is the rule, then mitochondrial and plastid genome variation should be correlated as a result of strict co-inheritance. Here, we present evidence from a native flowering plant species (Lobelia siphilitica) that sequence variation in a plant mitochondrial genome is not correlated with variation in its plastid genome. This means that inheritance of one or both organellar genomes in this species is unlikely to be strictly maternal. Additional data suggest that frequent and extensive recombination within the mitochondrial genome contributes to the discordance between mitochondrial and plastid variation. Recombination within the mitochondrial genome requires that multiple, unique copies of mitochondria co-occur within cells of an individual. Exactly how individuals inherit multiple copies is yet to be understood.

Adkins, John et al.

Applied Engineering, Sustainability, & Technology, Poster Location

Many workplace environments have poor air quality and lighting conditions that are unconducive for proper productivity and workplace motivation. Architects of both the past and present subconsciously design within the realm of biophilia and scholars are starting to research the effects that living architecture has on a human's health through improvements to the building's performance. These impacts included better indoor air quality and overall improvements to the buildings heating and cooling systems. Since there is already an extensive amount of research done on the study of living architecture and the impacts on the building, my research will look at living architecture and the impacts that biophilia can have on workplace behavior, such as creativity and productivity. The purpose of this paper is to see how living architecture effects the behaviors of people within a work environment and see how workplace productivity can be influenced by biophilic responses. This paper will explore the factors of how connections to nature can better improving

workplace environment compared to traditional methods through an extensive literature review and an analysis of the works in order to find missing variables and areas of further study.

Akins, Leighannah et al.

Biological Science, Poster Location

In eutrophic lakes, the bloom-forming cyanobacterium Microcystis occurs in irregular aggregations that benefit cells by enhancement of buoyancy and protection from grazers. Microcystis strains maintained in culture typically switch to a unicellular growth form. Recent research found that Microcystis blooms in different lakes provide habitat for taxonomically distinct bacteria that enhance aggregation in different Microcystis species, suggesting that that diverse bacteria may contribute to the adaptive capabilities of Microcystis in lakes throughout the world. The goals of this project are to identify bacteria from Lake Erie which promote aggregation of Microcystis aeruginosa in culture, and to determine whether toxic and non-toxic variants of M. aeruginosa respond to the same aggregation-inducing bacteria. Thirty two bacterial strains were isolated from from the 2014 toxic Microcystis bloom in Maumee Bay, and co-cultured with unicellular M. aeruginosa. Four of isolates promoted aggregation in non-toxic Microcystis aeruginosa, and two isolates also increased size of Microcystis aggregates. Furthermore, for the toxic M. aeruginosa, two of the four bacteria promoted increased aggregate size in the toxic variant without increasing frequency, while one enhanced both frequency and size. Results indicate that toxic and non-toxic variants of the same Microcystis species respond similarly, but not identically, to aggregation-inducing bacteria.

Al Madi, Naser

Computer Science, Poster Location

This study is focusing on learning performance and cognitive activity during text comprehension and multimedia comprehension. We use Electroencephalography (Alpha, Beta, and Theta bands) to monitor cognitive load and emotions during each presentation, and computational modeling of comprehension to measure and predict learning performance. We collected the data set for our experiment through a human study. We have applied this study on sixteen participants. In which their EEG activity and learning progress was recorded during text and multimedia comprehension. The results showed measurable differences in Alpha and Beta bands power between text and multimedia presentations. Furthermore, measurements of experienced emotions revealed that

multimedia presentation induced positive emotions in a higher magnitude than text as expected. Simultaneously, text presentation created higher cognitive load than multimedia. Equally important, we found a correlation between EEG band powers and learning performance.

Aladlaan, Asaad et al.

Biomedical Science, Poster Location

Osteoarthritis (OA) is a chronic joint disease causes irreversible damage to the articular cartilage resulting in loss of joint function and subchondral bone remodeling. Several risk factors can cause OA including trauma, age, obesity or mechanical injuries. Articular cartilage is avascular tissue and has no healing capacity. Chondrocytes are the only cells that maintain the cartilage homeostasis by building the extracellular matrix (ECM) like collagen II and aggrecan. There is no cure for OA and the currently available treatment like pain management, and joint replacement surgery is used to treat this disease. Osteoactivin (Gpnmb) is a transmembrane type I protein plays a vital role in osteogenesis and bone remodeling, the function of osteoactivin for cartilage repair is still unknown. To evaluate the role of osteoactivin of cartilage repair and chondrogenesis, we proposed that this protein can play as a protective factor in osteoarthritis. We first examined the expression levels of Gpnmb in human osteoarthritic cartilage, damaged and undamaged cartilage harvested following knee replacement. Gpnmb expression was 6-7-fold increased in damaged compared to undamaged cartilage. Next we examined the contribution of Gpnmb in post-traumatic OA model in vivo. DBA/2J (naturally mutant for Gpnmb), OA-rescue (WT), and C57BL mice are being used in our study. To induce osteoarthritis in mice, we use the destabilization of medial meniscus model (DMM). Mice were subjected to either DMM surgery on the right knee or sham operated (left knee). Eight weeks later, histological analysis of articular cartilage showed that DBA/2J mice have a protective response to the development of OA. Work is underway to determine the mechanism by which Gpnmb regulates chondrocyte anabolic and catabolic gene expression under inflammatory condition.

Alalawi, Abdullah

Applied Engineering, Sustainability, & Technology, Poster Location

The report summarizes important aspects of one of the latest industrial technologies Electron Beam Processing. Lately, the technology has gained much attention on the industrial scale, because of its

precised results, quick turnaround times, and cost-effectiveness. From the basic applications of Electron Beam Technology to its working all the aspects are covered in this report. Also, the report calibrates EBLab-200, a real time Ebeam processing machine. The technical aspects and mechanics of the machine are being discussed in a detailed manner. Electron beam technology is one of the most successfully used commercial techniques for industrial purposes such as insulating cables, printing, welding, and tubing. Unlike other technologies, the Ebeam can change the molecular composition of polymers and other materials. The technology wins a competitive edge over other techniques because it is considerably cost efficient and the results achieved are highly precised. This is the reason that electron beam technology has become immensely popular in the medical industry, where it is used for sterilizing equipment. The technology is also used as the basic method for contamination control in toiletries and cosmetics.

Aldosari, Bushra et al.

Lifespan Development & Educational Science, Poster Location

Using word list strategies, students write vocabulary lists in two columns (L2 words alongside L1 counterparts). The study investigates the effect of the placement of English vocabulary words and their Arabic translations in word pairs on the rate of successful recall of the English words. For the current research, Arabic-speaking ESL students will be asked to learn two word lists with the goal of learning the English words. The experimental materials are two lists of low-frequency English words with their Arabic translations. In the first session, 20 pairs of English-Arabic words will be presented to the participants. The presentation order of English-Arabic words in the list will be counter-balanced across students. The participants will have 15 minutes to learn the target words. Then, they will have seven minutes to complete the English-Arabic directional translation test. In the second session, the sample and the procedure will be identical, with another list of 20 pairs of English-Arabic words presented to participants. The direction of the word lists in the second set of tests will be from Arabic-English. Although the current research is still in the data collection phase, implications for this research will help to better understand learning effectively learning English-Arabic vocabulary.

Almahmoud, Shaima et al.

Psychological Sciences, Poster Location

Self-enhancement (SE) has been shown to be a useful disposition under circumstances of extreme adversity with different populations (Bonanno, et al., 2002; Stein, et al., 2011). However, there is a paucity of research that investigated SE and other indicators of emotion. In this investigation, we examined SE and emotion in two samples, patients with Thalassemia and patients with Multiple Sclerosis (MS). The sample consisted of 27 adults with transfusion-dependent Thalassemia (age M=33, SD=9) and 37 adults with relapsing-remitting MS (age M=37, SD=10). Affect and facial behavior were collected during interviews about the participant's illness and psychological distress was measured using the Symptom Check List (SCL-90-R; Derogatis, 1983). SE was derived from the close informant reports of participants' functioning. We hypothesized that higher levels of SE would be associated with higher levels of positive affect and potentially lower levels of negative affect and psychological distress. OLS regression analysis, controlling for psychological distress and expressiveness for facial behavior, was used to examine whether SE could significantly predict positive or negative affect or facial behavior. Results indicated that SE is associated with greater positive affect for thalassemic patients. For MS patients, results indicated that SE is associated with greater positive affect and positive facial behavior.

Alsaeed, Abeer

Modern & Classical Language Studies, Poster Location

The research study is "The impact of Tatweer Program on English as a Foreign Language (EFL) teachers' professional development in Saudi Arabia in General Education." The purpose of this study is to understand EFL teachers' perceptions of their professional development in Saudi Arabia. The goal is to understand their experiences in professional development such as media, training courses, workshops, and coaching on EFL teachers' professional development. Both teachers and supervisors need a clear vision of these training courses and their dynamic impact on EFL teachers' professional development, and consequently on students, who are the main target in this learning process. The literature has shown that there are many studies regarding the teachers' performance in the classrooms in Saudi Arabia from the perspective of the supervisors and teachers themselves, but there is very little or none in the areas of the impact of Tatweer Program on EFL teachers' professional development. The King Abdullah Bin Abdul Aziz Public Education Development Project (Tatweer) aims to improve educational outcomes in the Kingdom of Saudi Arabia through greater use of technology. Recently, Tatweer implemented a standardized secure email system for 6 million students and their teachers. It chose Microsoft Exchange Server 2010 supported by Microsoft

security products to protect students against inappropriate Internet content. One of the main targets of this program is improving teachers' professional development in many ways such as raising the quality of public education outcomes by improving the basic teaching skills of teachers, improve learning leadership skills of teachers and supervisors, and improving the skills of teachers in classroom management (Tatweer, n.d.). This study uses quantitative survey methods by collecting data via an online survey. This survey will be launched to a random sample of 143 EFL teachers in Saudi Arabia in general education.

Al-Tokhais, Abdulelah et al.

Foundations, Leadership, & Administration, Poster Location

This study aims to investigate the impact of tourism development on community life and to empirically explore the impact of these variables on sustainable tourism development. The study applies the Sustainable Tourism Development model. Data will be collected from residents of Riyadh, the capital city of Saudi Arabia, and analysed using structural equation modelling. The findings of this study will provide academic researchers and policy makers with a better understanding of residents' perceptions of tourism development and its impact on residents' quality of life. Furthermore, the findings will be helpful in the development of strategies which will involve the community in the process of sustainable tourism development.

Ambati, Sreenivasa Reddy et al.

Applied Engineering, Sustainability, & Technology, Poster Location

Energy is an essential part of our daily lives and it has huge and increasing demand. As we know fossil fuels are going to extinct in the future, we need to move on to renewable energy resources. The best solution to overcome this problem is usage of renewable energy sources which is non-polluting and best efficiency. The present work is to convert abundant solar energy into useful electricity through fuel cells. Fuel cell is one of the best devices for long term energy because we can supply hydrogen steadily and the best method to produce hydrogen is through electrolysis of water. The entire process is divided into two generative modes: sun mode and moon mode. During the sun mode the solar energy is used to produce electricity and hydrogen. The hydrogen is stored for future use. During moon mode the stored hydrogen is used through fuel cell to produce electricity. This paper is to demonstrate the principle of a solar-fuel cell hybrid power system by a combination of solar

photovoltaic (PV) modules, fuel cell stack and electrolyzers, hydrogen storage tank, and power conversion devices to generate a small amount of electricity.

Anderson, Jason et al.

Psychological Sciences, Poster Location

Recent work shows poor sleep may lead to reduced glucoregulatory function. Poor sleep and glucoregulation, even when subclinical, are associated with reduced attention and executive functioning. We hypothesized that poor sleep and glucoregulation would be individually linked to cognitive deficits and also interact, such that those with deficits in both would show greatest impairment. 79 healthy young adults (age M=20.99, SD=2.36) participated. Glucose was taken via fingerstick at 8-hr fasted baseline, followed by cognitive testing and questionnaires. Cognitive tasks were ANAM4 Go/No-Go (GNG), Running Memory Continuous Performance Test (RMCPT) and Standard Continuous Performance Test (SCPT). 2(sleep)x2(glucoregulation) MANOVAs for each cognitive test revealed a main effect of glucoregulation group [Δ»=0.88, F(3,70)=3.30; p=.03] on the GNG and a main effect of sleep quality [Δ»=0.99, F(2,71)=3.10; p=.05] on the RMCPT. For the GNG, greater mean reaction time [F(1,72)=6.62; p=.01] and reaction time variability [F(1,72)=4.72; p=.03] emerged in the better glucoregulation group. For the RMCPT, lower mean reaction time percentile [F(1,72)=5.38; p=.02] emerged in the poor sleep quality group. No interactions were observed. While the poor sleep group showed expected deficits, those with better glucoregulation showed slower, more variable reaction times. Future research may benefit from the use of clinical samples and prospective designs.

Andrei, Spencer et al.

Biomedical Science, Poster Location

Transient receptor potential channels of the ankyrin subtype-1 (TRPA1) and vanilloid subtype-1 (TRPV1) are structurally related, non-selective cation channels that show a high permeability to calcium. Recent evidence suggests a promising role of TRP channels in the regulation of cardiovascular physiology and its pathophysiological implications. However, there is a paucity of underlying information characterizing TRPA1 and TRPV1 functional expression in adult mouse ventricular cardiomyocytes (CMs). Our studies demonstrate that TRPA1 and TRPV1 ion channels are expressed at the protein level in CMs and both channels predominantly colocalize at the Z-discs

and costameres. Furthermore, immunohistochemical staining demonstrates that the channels are expressed throughout the endocardium, myocardium and epicardium. Moreover, specific TRPA1 and TRPV1 agonists elicit dose-dependent, transient rises in intracellular free calcium concentrations that are abrogated in CMs obtained from TRPA1-/- and TRPV1-/- CMs, respectively. Indeed, treatments with various concentrations of selective channel antagonists prior to agonist stimulation attenuate the AITC- and capsaicin-induced calcium influxes in a dose-dependent manner in CMs. In summary, these findings demonstrate functional expression of TRPA1 and TRPV1 ion channels in freshly isolated CMs.

Atchison, Kelsey et al.

Architecture, Poster Location

This study investigates studio cultures effects on motivation. Architecture programs tend to take a negative connotation when looking at mental health. Students are exposed to high levels of stress and an overwhelming workload. Studies have shown that there is an appropriate level of stress people should be exposed to as well as a balance of stress to be productive. Stress can be a motivator, but other factors contribute to motivation. Social support can be a mediator for excessive stress. This study will analyze studio culture's effects on motivation influenced by social support. Do peer connections positively, negatively, or have no effects on a student's performance and motivation. Concepts that will be used to gage the effects on motivation are perceived stress, work space, and performance. This study will concentrate solely on the social structure of a studio environment and its effects.This study will compare Kent State University's first year architecture students and graduate architecture students. Using a mixed method research approach data will be collected and compared. Surveys will collect quantitative data. Interviews will provide qualitative data. This research can be useful in proving or disproving the importance of collaborative studio environments.

Avouris, Dulci et al.

Geology, Poster Location

Identification of color-producing agents (CPAs) in Lake Erie is a challenging, but vital aspect of monitoring algal blooms. CPAs are typically various species of phytoplankton, cyanophytes, or detritus. Derivative spectroscopy is effective at identifying the principal components of reflectance derivative spectra measured with lab, field or satellite instruments. The Moderate Resolution Imaging

Spectroradiometer (MODIS) measures reflectance in 10 bands from 412-678nm, providing spectral data to identify CPAs. We extracted principal components using Varimax-Rotated Principal Component Analysis (VPCA) on the first derivative of the reflectance data from both field samples and MODIS images. Here we compare results from lab measurements of water samples collected from Lake Erie (June 8 - July 27) with components extracted from MODIS images of the western basin collected on July 28, Sept. 14 & Sept 16, 2015. Water sample analysis provided ground truth data for validation of MODIS image decomposition. The results indicate that we can partition CPAs related to algae from their degradation products using MODIS, but that additional information is available in hyperspectral, rather than multispectral instruments.

Baker, Abby et al.

Architecture, Poster Location

This paper analyzes the effects of increased urban density and population growth on different districts of Shanghai, China and how it may facilitate the production and continuation of the urban heat island (UHI) effect. In Shanghai, these UHIs have caused an increase in heat waves and in summer-mortality counts in both the suburbs and downtown areas of Shanghai. Through the selection of comparison between two sites of varying urban density (Marriott City Center and Changfengxincun Residential District), the effects of urban density on UHI can be investigated through the comparison of low residential and metropolitan high rise districts. Through the use of computational modeling, the sites will be analyzed by a computer program to measure heat signatures and wind patterns that occur within the selected districts. This information can then be compared in an effort to draw conclusions on what level of density would better reduce the UHI effects caused by modern methods of urbanization. It may be concluded that low density structures allow for a reduction of heat signatures in residential neighborhoods and through the use of new massing techniques that will allow for a reduction in the negative impact of UHIs on the growing population of Shanghai, China.

Balaratnam, Sumirtha et al.

Chemistry & Biochemistry

Prostate cancer is one of the two most prevalent forms of cancer in men. The proliferation of prostate cells in the cancer can be directly correlated to transcription of several oncogenes mediated

by the nuclear androgen receptor (AR). Androgen receptor stimulation of prostate cancer has been correlated with co-activation from the steroid responsive activator RNA (SRA1). SRA1 is a bifunctional transcript that has recently been found to act not only as a code for protein, but also as a long non-coding RNA (lncRNA). SRA1 has been found to involve in the SRC-1 complex that regulates the transcription of AR. However, the SRA1 assembles in a Ribonucleoprotein (RNP) complex that reduces SRA1 incorporation into SRC-1 complex. SMRT/HDAC1 Associated protein (SHARP) is one protein in the RNP complex that has been previously shown to interact with SRA1 RNA through its four RNA Recognition Motifs (RRMs) and repress the RNA activity. However the specific binding sites of SHARP-RRMs with the SRA1 and their functional roles are still unknown. We investigated the binding of two of the RRM subdomains of SHARP to SRA1 by RNase T1 footprinting. The data show that there was a specific cleavage site at the G52 position of the SRA1-STR7 arm by SHARP-RRM2 which led to the remodeling of the entire SRA1 RNA structure. However, SHARP -RRM1 didn't show any effect on the SRA1 structure. In addition, the preliminary NMR and Chemical shift perturbation studies indicate that there is a direct interaction between the SHARP and SRA1 RNA. Further studies are required to completely analyze the detailed binding and functional roles of SHARP with SRA1. These studies have potential assist in the development of anti-prostate cancer therapy.

Balci, Sebiha et al.

Lifespan Development & Educational Science, Poster Location

Badges, leaderboards and points are the most frequently examined gamification tools to measure the motivation, attitude and enjoyment of user. Badges are the digital credentials given for achievements and leaderboards are digital rankings of learners based on their performance on tasks. However, the implementation of multiple gamification tools simultaneously as in previous research made it impossible to separate the effects of each gamification tool. Hence, in this study we will investigate the effects of two gamification tools, badges and leaderboards, separately and compare their effectiveness on student motivation and performance. Moreover, we will investigate the effects of gamification tools for learners with different achievement goal orientations (AGO). We implemented both gamification tools into an online undergraduate course in Blackboard Learn for Spring 2016 semester. Participants were randomly assigned into four groups: 1) no badges/no leaderboard group (control group), 2) badges/no leaderboard group, 3) no badges/leaderboard group and 4) badges/leaderboard group. The subject information, AGO, and the self-report questionnaire

about the badges and leaderboard will be collected from participants. As the current research is still in data collection phase, only preliminary results will be presented.

Bauer, Kyle

Lifespan Development & Educational Science, Poster Location

Incidental teaching is an approach to intervention that focuses on using a child's specific interests in situations that take place during his or her naturally-occurring routines, to promote language and communication. Incidental teaching strategies such as stimulus fading and time delay have been proven in research to enhance the spontaneous speech and initiation of communication in young children with language delays. In this study, a single-subject research design baseline and intervention is used with one parent-child dyad. Family-centered coaching, respective of the current practices used in the field of early intervention will be used to coach the parent on how to implement evidence-based incidental teaching strategies. Data will be collected after examining videos of interactions that take place between the parent and child in their home during the child's daily routines. The data will be used to examine the effects that intervention has on the child's expressive communication and spontaneous speech.

Beals, Nathan et al.

Chemistry & Biochemistry, Poster Location

Common features in the pathogenesis and progression of the neurodegenerative disease Parkinsons (PD) has been correlated with oxidative damage and activation of the inflammatory cascade. Curcumin, a dietary small molecule seen in the Indian spice curry, has been established as an encouraging therapeutic for these neurodegenerative precursors but flaws in bioavailability due low blood solubility and low retention in the brain have been problematic. To overcome these issues, we developed a novel heptameric nanoparticle drug delivery complex that emphasizes 1) increases in curcumin solubility and 2) two targeting aptamers that improve migration across the blood brain barrier and target dopaminergic cells. Our goal is to demonstrate a substantial increase in the therapeutic effect of curcumin in terms of neuroprotection by subsiding negative effects correlated with PD progression. In vitro, confocal microscopy done with SHSY5Y recognized a targeted response when comparing TrkB aptamer and nonaptamer complexes. ROS concentrations decreased 15% when treated with the full complex compared to control cells in a high H202 environment, a 12-

fold improvement compared to free curcumin. In vivo results displayed after 30 minutes, the full complex entered the brain and immunohistochemistry gave evidence to a therapeutic response with reduction of oxidative stress and inflammatory factors.

Bhandari, Srijana et al.

Chemistry & Biochemistry, Poster Location

The excited-state properties in a series of coumarin solar cell dyes have been investigated with long-range-corrected time dependent density functional theory (LRC-TDDFT). Solvent dependent absorption energies of Coumarin1, coumarin153 and coumarin480 have been used to interpolate the effective dielectric environment inside of nano-capsule made up of octa-acid. In contradiction to general thought that inside of nano-capsule is either hydrophilic or hydrophobic, we investigated that the environment inside of capsule is neither completely hydrophobic nor hydrophilic instead it is of reduced dielectric constant ($\Delta\mu$ 3.5), which can significantly change the photo-physical and photochemical process. We also figured out that there is an intramolecular charge transfer in coumarins which can be of significant use in photovoltaic applications.

Bissler, Mark

Math, Poster Location

We look at the character degree graphs of solvable groups having more than 4 vertices. Using known results, and extending a few, we are able to show a certain family of graphs can't occur for a solvable group.

Brown, Maya

Music, Poster Location

The purpose of this study is to discuss the role of women in the performance of capoeira, an Afro-Brazilian influenced martial art that combines` music, dancing, and fighting. This study traces how the treatment of women has evolved throughout the history of capoeira, while discussing the different ways women are treated in the various manifestations of capoeira around the world. For this purpose lyrical examples would be drawn from the available music used in the art form as well as the recorded stories of women who have and still participate in capoeira.

Buchin, Leandra

Architecture, Poster Location

This study investigates branding strategies within architecture firms and the formation of brand as it pertains to the client's identity. Historically, marketing was forbidden in architecture firms and identity was created simply through project work and reputation. Branding and marketing are relatively new to the architecture profession and are underdeveloped areas in firms. The brand originates from design quality and the service reputation of the firm, therefore, architects are in the business of creating brands for their clients and design spaces geared toward communicating the client's specific identity. Recent brand management research of architecture firms has shown a significant link between design and client identification. Clients identify with the design approach and specific design solutions; the stronger the design the stronger the potential for identification. What is yet to be researched within this topic is the specific branding strategies that link an architecture firm to a client and how architecture is utilized as the medium for creating identity for each. This research study seeks to identify marketing strategies that prove effective in successful firms and generate image for architecture firms and clients.

Callaghan, Brigid

Architecture, Poster Location

A hot box experiment can be conducted for a variety of measurements. Most commonly, they are used for thermal testing. In this research in particular, the hot box will be used to test and analyze resistance properties of common 3D printing materials. As 3D printing technology advances, the potential for implementing this technology in the construction industries increases. Thus, in this sustainably driven world it is important to understand the resistance qualities of 3D printing materials. Methods used in this research will be analysis and testing through the manipulation of materials, printing techniques and temperature of the hot box. Research indicates the most common 3D printing materials used for architectural projects are concrete, clay and plastic, therefore this research will analyze those materials. Overall, it is significant to understand the thermal properties of 3d printing materials, due to the direction the technology is headed. With the flexibility of design and rapid production provided by 3d printers, it won't be long before they become the dominant construction method in the architectural world. Therefore, in order for this technology to meet

environmental standards, it is important to research 3d printed materials to find an optimal and sustainable composition.

Callaghan, Brigid

Architecture, Poster Location

This research aims to find an alternative construction method for the Arctic regions of Canada by utilizing 3D printing technology. Currently, there are many issues within the building industry of Arctic Canada, due to the extreme environment and remoteness of communities. The main issues include the short construction season, extreme demand for housing, high cost of transporting materials and machinery and the high cost of heating. It is argued that the comparably low cost for 3D printers, little material waste, ability to print in situ, minimal assembly and flexibility of design of this construction method would be able to address the unresolved needs of Northern Canada. A panel prototype will be developed through a combination of material and printing simulations, experiments and analysis. As a dominant building material in the Arctic and a prevalent 3D printing material, research determines concrete to be the optimal material to use. Thus, it is expected that a 3D printed concrete panel can meet and resolve the construction needs of the Canadian Arctic. As present construction methods in Northern Canada are expensive and limit growth, this research will investigate the potential of 3D printing technology as a rapid production, design flexible, cost efficient alternative.

Carmello, Vinicius et al.

Geography, Poster Location

Accumulated monthly rainfall values from 29 stations between May to November were collected from Midwestern Regional Climatic Center (MRCC) to analyze total precipitation and soybean crop yield (1999-2013) in Northwest Ohio and answer the following question: how well is annual precipitation associated with annual soybean productivity? R software was utilized for descriptive analysis represented by graphics boxplot. Sustantial total annual rainfall variability was found in Northwestern Ohio. Also, low variability between the stations was found, indicating greater homogeneity between records. 15-years total annual rainfall were below 1000 mm in all stations, showing the effect of regional climatic conditions - specially in 1999 (lower volumes of rainfall recorded) and 2011 (highest total volumes recorded and also less variation between stations).

Seasonality is marked between seasons and guides the regional rainfall pattern. Despite the low precipitation values, the rain stations spatial pattern displays low variability among the measured values.

Carnessali, Michael

Architecture, Poster Location

Architecture design studio is a very unique culture with a unique set of principles that require students to spend countless nights without sleep and have accepted this as commonplace within the culture. The purpose of this study is to investigate the mental impact and psycho analytics behind the current model for architecture school and to generate a discussion about some of the underlying principles found in today's schools of architecture. This study will gather a general basis from multiple architecture schools. Compare, quantify, and analyze the data to discover the root causes that lead to unhealthy studio environments. The significance behind this study is to reevaluate the standard set by many of the top architecture schools, requiring students to reach unattainable lengths resulting in loss of sleep, unhealthy dietary decisions, and ultimately, major impacts on mental health; all to achieve the proper quality set out by those above them.

Coen-Mishlan, Kristin

Music, Poster Location

This critical content analysis seeks to identify sociological influences female band directors face in the traditionally masculinized profession of instrumental music education, and determine whether these influences create challenges or opportunities. Literature within the past thirty years was collected and examined using the critical feminist theory lens of bell hooks. Feminism is defined as a struggle to end sexist oppression (hooks, 2000b, p. 26). Authors of the literature include Lucy Green, bell hooks, Roberta Lamb, Jill Sullivan, Sondra Wieland Howe, among others. Research studies within the literature identify participants that have experienced gender discrimination, isolation, and stereotyping. Findings of the study indicate that a missing history of female music educators, gender discrimination, a lack of female role models, and demands of the profession are sociological influences female band directors face in their practice. These themes were present in much of the literature, however an emphasis on gender discrimination and a lack of female role models was present. It was determined that a lack of female role models and demands of the

profession are inhibiting factors, though they are not influenced by sexist oppression. To conclude the paper, a practical narrative, implications for the profession, and thoughts for future research are addressed.

Cooks, Jennifer et al.

Psychological Sciences, Poster Location

Perfectionism is described as having three dimensions: self-oriented perfectionism (SOP), socially-prescribed perfectionism (SPP), and other-oriented perfectionism (OOP). SPP has been associated with depressive symptoms, hopelessness, and suicidal ideation. SOP has been found to predict depressive symptoms in conjunction with achievement-related stress. We examined whether perfectionism moderated changes in affect and rumination when individuals were informed of failure or success on a task. We hypothesized that SPP and SOP would moderate the relationship between performance and affect. Similar moderation with rumination was expected. Undergraduates (N = 84) completed questionnaires measuring perfectionism, rumination, and affect. Individuals then completed a mock intelligence test (anagrams, matrix reasoning), were randomly assigned to receive positive or negative feedback, and completed a set of questionnaires measuring affect and rumination. SPP significantly moderated both the relationship between negative affect and task performance and the relationship between rumination and task performance. SPP trended toward significance in predicting a decrease in positive affect based on performance. SOP effects were not significant. These findings are consistent with prior research associating SPP with various psychological symptoms. As SOP was not predictive of such changes, perhaps anticipation of criticism from others (rather than self-imposed expectations of superior performance) contributes to vulnerability to dysphoria.

Dargay, Lauren

Journalism & Mass Communication, Poster Location

Online news forums allow members of the public to instantly and anonymously comment on stories, interact with other commenters, and help shape an ongoing public opinion narrative about events. Thus far, however, the relationship between news stories and public reactions via news comment forums, specifically, the effect of news frames on follow-up comment frames has received scant attention in the mass communication literature. Because terrorism is such a polarizing issue, it

provides a great platform for a study focused on the relationship between well-articulated and concrete elite frames in terrorism coverage. In news stories and frames in online reader comments. A content analysis of New York Times online news articles about the Charlie Hebdo and November 2015 terrorist attacks in Paris will be conducted to determine if common terrorism frames used by American media outlets are present in the stories, and how such messages influence public opinion via framing of news forum comments. I hope to show that frames in news stories and frames in comments differ in that online commenters introduce new frames to discuss the topic of terrorism.

Dassanayake, Arosha et al.

Chemistry & Biochemistry, Poster Location

Graphenes, hexagonally arranged one-atom thick planar carbon sheets1 one of the most studied material for last several years, show superior electrochemical properties due to their unique structure. Among various graphene morphologies 3D graphene; also named as “Graphene nano-balls” has unique ability to enhance supercapacitors conductivity by (1) reinforcing graphene nano networks and (2) forming tiny ion transport channels through available mesopores. Compared to high-cost, less efficient techniques such as high-temperature chemical vapor deposition (CVD) and high-temperature treatment of carbon precursors, catalytic graphitization has been widely adopted industrially; where graphitization is achieved at lower temperatures by introducing catalytic metallic species to the carbon framework. Core-shell type nanoparticles, composed of a Polyvinylpyrrolidine (PVP) stabilized cubic Prussian blue core and a phenolic resin shell were synthesized following a facile sol-gel type approach. Above particles were carbonized under N2 atmosphere at 600 °C to obtain graphene nano-balls composed of a Fe2O3 core and a carbon shell. Obtained nanoballs pocessed graphitic layers (~11), high surface area of 397 m2/g, 0.60 % N in the carbon framework and magnetic properties. Considering the presence of graphitic layers, doped N in framework, magnetic properties and high surface area with a spherical morphology, these graphene nanoballs predict promising applications in the fields of energy storage, supercapacitors, pollutant removal and targeted drug delivery.

DeFrain, Isaac

Math, Poster Location

Chebyshev polynomials minimize the supremum norm on a compact set. A general question of interest is: how fast do the norms of the Chebyshev polynomials grow with their degree? It is known that for a compact set with a regular enough boundary, the growth of the n-th Chebyshev polynomial on the set is controlled by the the n-th power of the logarithmic capacity of the set. However, it is not known how complicated the boundary of a compact set may be while still guaranteeing this control. In this investigation, we show that this control persists for compact sets which are unions of Jordan domains with quasiconformal boundary and connected unions of quasiconformal arcs with no internal cusps.

Dillon, Danielle

Public Health, Poster Location

The Columbiana County Youth Leadership Summit was created to engage eighth and ninth grade students in community service. The initiative challenges student teams to organize and implement service projects in their schools and neighborhoods. The Summit includes a civic reflection component, courtesy of Ohio Humanities, and a capstone event where student teams share project outcomes with their peers and civic leaders. Currently, seven school districts participate in the Summit.

DiMassa, Nicholas

Health Sciences, Poster Location

Introduction: Exposed tendon with an overlying soft tissue defect often occurs in the foot and ankle. In addition to wound healing, consideration needs to be given to the exposed tendon. We present two cases that support the use of aggressive debridement, negative pressure wound therapy, and external fixation to adequately close wounds with exposed tendon. Methods: In the first case, a 57 year old female underwent a radical achilles' debridement. The exposed tendon and wound were permitted to granulate in using NPWT and an external fixator. In the second case, a 36 year old female experienced a dehiscence of a surgical wound exposing the tibialis anterior tendon. Aggressive debridement and NPWT were utilized to allow the wound to close over the exposed tendon. Results: In both cases, the patients' wounds closed in a timely and efficient manner. During closure of each wound, granulation tissue covered and replaced the exposed tendon structures. Upon final closure, active motion of the ankle joint unique to each tendon was maintained. Conclusion: If a tendon is

replaced with granulation tissue during wound healing and it retains healthy attachments both proximally and distally, tendon function can be preserved, resulting in the so-called “dumb tendon."

Dong, Weichuan

Geography, Poster Location

The issue of modern anti-vaccination movement turns out to be urgent at the time when the United States are undergoing waves of epidemic disease outbreaks recently, especially measles outbreak that sickened 856 people during the last two years, which was considered a relation to communities with low vaccination rate. A controversial health topic of vacination exemption has been fueled by a measles outbreak in late 2014, the origin of which was traced to Disneyland and that subsequently ushered in a moral panic both nationwide, and in particular in California. Legislation was rapidly drafted to close personal and religious exemption options for childhood vaccinations (SB 277), and a vibrant public debate broke out among pro-vaccination (pro-vax), vaccine-resistant or -hesitant, and anti-vaccination (anti-vax) groups. This research presents a case study of this anti-vaccination movement in Twitter, using geotagged tweets and demographic data as tools in order to analyze the relationship between socioeconomic status and vaccination choices of people during this online debate.

Dyne, Matthew

Geography, Poster Location

Land cover change can be driven by a number of factors including urban growth, agriculture, economic needs and others. Deforestation is one form of land cover change and the loss of forests are an important and often overlooked aspect of climate change. Both the removal of trees from the landscape for usage by a population or the creation of fuel through burning of wood can occur. The loss of forests in Harris County, TX is one particularly interesting instance. Clearing of forested land in order to make for expansion of urban expansion is one change often seen in this area. This poster shows where forested land has been cleared in the county, what land cover has replaced it, and describes possible future implications. Results vary substantially given the direction of urban growth, but in general land cover change has occurred in varying dimensions and scales over the prescribed 20 year period. The resulting land cover change follows an estimated pattern around the central urban zone of Houston, but such expansion spins off into some unexpected changes in other areas.

Overall, the methods applied to Harris County, TX could easily be applied to other fast growing areas in the United States.

Feltner, Alanna et al.

Psychological Sciences, Poster Location

This study explored the impact of playing a fraction board game on children's fraction understanding and metacognitive (e.g., confidence in their fraction knowledge) skills. Fifth grade students played either a linear or circular fraction board game over four sessions. One board game was segmented into 10 spaces and players took turns moving tokens from the start (0) to the finish (1). Players counted on while moving (e.g., if they began a turn at the 4/10 unit and drew a card indicating they should move two units, they would say, 5/10, 6/10). The researcher made comments regarding the percentage of the board crossed (e.g., You are at 6/10; you are 60% of the way there). We predicted that playing the board game, and particularly the linear game, would improve students' fraction magnitude understanding (measured by number line estimation, magnitude comparison, and magnitude ordering tasks) as well as confidence judgment accuracy. Data collection is ongoing. Preliminary findings indicate that students' magnitude accuracy does not improve, though confidence in their answers does increase. Implications for classroom instruction of fractions will be discussed.

Fisher, Matt

Architecture, Poster Location

Forgotten cities have been affected by economic shifts in industry, leaving communities abandoned. Forgotten cities were at one point in time development to be economically relevant as an industrial resource whether it was a transportation hub, a production factory, a resource mill or a primary location of resource collection. Since their relevance, those means of transportation are not relevant anymore, those factories are out of business, those mills have to resources to feed from and those primary resource locations have since dried out. Once the primary means of economy was gone, only small businesses and local government remained. These community members were forced to retool their economic stature or abandon the city. Those members that remain now live in a city with abandoned buildings that constantly remind them of how plentiful their community once was. Sociologist, economists, planners and designers have begun to analyze the effect of economic

abandonment has taken on the community and studied how these affects can be reversed. The purpose of this study is to identify how a community can begin to redevelop through construction and/or renovation. My research will look into methods developed by sociologists, economists, planners and designers of reversing these affects and establish or propose a refined method based on the results of these tested methods that have a focus on construction or renovation.

Fitzgibbon, Andrea et al.

Biological Science, Poster Location

Photosynthetic biofilms in streams influence element cycling through changes in physicochemical conditions over diel time scales. Through diffusion and advection, the products of algal metabolism may modify chemical speciation and ecosystem function in sediments. We quantified the magnitude of change in physicochemical gradients over diel periods in sediments underlying photosynthetic biofilms. Hourly micron-scale physicochemical depth profiles from the water column into sediment were collected using microelectrodes. Water column oxygen concentrations were quantified to characterize whole-stream metabolism. The sediment oxic layer was shallowest (15 mm) at nighttime and deepest (20 mm) between 16:00--18:00. Deepest oxic layer was concurrent with the time that sediment oxygen concentration was highest (80.6% saturation). Maximum sediment oxygen concentration was offset (~1 hour) from the maximum water column oxygen concentration (89.6%). The stream studied was slightly heterotrophic (NEP = -0.24 g O2/d/m2). Increased depth in sediment oxic layer suggests that algal biofilms can drive sediment physiochemistry over diel periods. Time lag in oxygen concentrations within sediments suggests that biogeochemical reactions favored under oxic conditions would be sustained at depth beyond the period of peak primary production.

Fogle, Andrew

Visual Communication Design, Poster Location

Access to information is a democratic right for all people. The American Disabilities Act (ADA) passed July 1990, prohibits: “discrimination against people with disabilities in employment, transportation, public accommodation, communications, and governmental activities. By law, everyone should have access to information. The form that information takes varies greatly depending on the artifact, but is generally understood to be a complex presentation of concepts, symbols, writings as well as oral and visual language. The sum of these parts is that the user acquires

meaning through a holistic understanding of the intended message. Visual communicators have a considerable amount of control over the way a message is delivered. Communication solutions need to be accessible to all individuals, which is where the influence of graphic designers becomes very important. Typographic details like font selection, legibility, color, readability and margins of a page become even more crucial elements for designers when the audience includes a demographic that may have disabilities. Communication ultimately allows people to grow and become a part of their society. With respect to increasing accessibility of information, this thesis focuses specifically on crafting a framework to assist graphic design teams working on visual communications targeted at individuals living with Multiple Sclerosis.

Ford, Christian et al.

Architecture, Poster Location

Arduino provides an affordable combination of customizable software and hardware which communicates directly to deliver virtual and physical simulations. The distinctiveness of Arduino has allowed the platform to be used to program sustainable solutions using intelligent surfaces within the built environment. However, the majority of investigations using intelligent surfaces focus on programmable, environmentally-responsive tracking surfaces. Consequently, few investigations using the Arduino platform extensively explore user-responsive tracking surfaces due to containment and expense from slower progression in this field. This study focuses on alternative applications for pattern tracking surfaces which respond to users within the built environment. For this study, an investigation of material, expense, containment, and sensor efficiency was conducted utilizing virtual simulations. The results of the virtual simulations specified several prototype construction iterations using comparative analysis data to determine the most efficient model. Utilizing the results of the comparative data analysis in construction development provides direction for physically testing a tracking array prototype and ultimately can reduce expense in physical experimentation.

Ford, Christian et al.

Architecture, Poster Location

A recent change in economic structure has become the catalyst for the systematic migration of millions of multi-generational rural families into precipitous urban environments throughout China. Although typological solutions have been implemented to accommodate the relocation of the 900

million migrants,it has become a significant concern to investigate beyond typological solutions and address the risk of social segmentation presented by the introduction of urban consuming practices examined in previous investigations of this phenomenon. Through utilization of market strategy consumer decision-making styles (CSI), adapted from Dr. Siu's consumer satisfaction study, qualitative surveys and interviews were conducted with students and academic staff of rural origin at Sichuan University.The adapted surveys focus on user satisfaction and considers the social dynamic of rural migrant families by investigating the relationship between consumer decision making styles and association with generational preferences as plausible indicator of the degree of social adaptation. The results of the survey will pose the validity of a generational dichotomy generated through the shift in economic structure intended for a new generation of consumers and provide guidance in reducing social segmentation within rural family dynamics.KEYWORDS: migration, China, rural, consumer, multi-generational,urban adaptation

Forney, Zachary

Architecture, Poster Location

This study investigates the role of egalitarian team structure in the design field and ways that it can be implemented efficiently. It has been determined in previous studies that collaborative design maximizes design output, opposed to individual design, but looked only at typical hierarchical office structures (Constantino & Cho 2015; Haslam & Hopkins 2005; Wang & Oygur 2010). European companies, along with many tech companies, have begun to implement an egalitarian management structure, but others have said that America just isn't ready for this (Sharpe; Nystedt 1997). The purpose of this research is to identify a method for managing design teams in a way that yields an efficient process for designing. To test this management method, a two week observational study will be conducted. Teams will be split up and will be given design problems to solve within an hour under varying team structures. This will happen on two occasions, each time under video surveillance for analysis. By comparing these structures of management, correlations between efficiency and new methods of managing design teams will be established. It is intended that by the end of this study, both academicians and professionals will have a more efficient means to solve design problems.

Freeman, Angela et al.

Biological Science, Poster Location

Arginine vasopressin (Avp) and its homologues modulate behavior in nearly every vertebrate taxa, and thus provide an elegant system for comparative research. In rodents, Avp is best known for modulating social behaviors, in particular affiliation such as: grooming, sniffing, and forming social bonds and memories. Researchers recently discovered Avp can influence social communication by modulating rodent pup vocalizations. However, this work has not been extended to other species, including free-living species. Richardson's ground squirrels (Urocitellus richardsonii; RGS) are free-living social rodents, in which alarm calling is aproximate manifestation of sociality. To test the hypothesis that Avp influences social communication, we implanted osmotic minipumps into RGS and administered Avp or saline intracerebroventricularly. We examined behavior using a general behavior survey, a predator model presentation, and a social-challenge experiment, each before and after Avp or saline administration. While saline treatment had no effect, Avp reduced social aggression and increased predator vigilance and escape behavior in males, but increased social aggression and anxiety in females. In males, Avp increased the propensity to vocalize at other individuals, but we observed the opposite trend in females. Our discovery of Avp's sex-dependent effects on social communication is particularly exciting and highlights Avp's extensive influence on social behavior.

Fu, Chenjian et al.

Geology, Poster Location

Discussions about the spatiotemporal patterns and trends of apparent polar wander paths (APWPs) have focused on comparisons between different tectonic plates in order to look for clues that indicate they were part of the same supercontinent (e.g. Besse and Courtillot, 2002; Torsvik et al., 2008; Geuna et al., 2010; Domeier et al., 2011). However, before making these further advanced comparisons, we determined that the robustness of different algorithms that generate APWPs for an individual tectonic plate should be tested. This actually becomes a trajectory similarity measuring problem. The reference trajectory we chose is the Fixed Hotspot Model (MIler et al., 1993; MIler et al., 1999) predicted APWP, which is a known dataset. The subjects of comparison are the 60 paleomagnetic APWPs, which are produced using 60 algorithms (with more to come in the future) developed in this paper.

Garcia, Monica et al.

Psychological Sciences, Poster Location

Purpose: The aim of this study was to evaluate the effects of administering a low dose of hydrocortisone following a trauma on subsequent PTSD symptomology, and specifically symptomology from each cluster of PTSD. Procedure: A sample of 64 patients admitted to a trauma unit of a local hospital were randomly assigned to a 10-day low-dose course of hydrocortisone or placebo in this double blind longitudinal study. The participants were then assessed on various measures including: past traumas, PTSD symptomology, and psychological well-being over a 3-month span. Results: Results suggest that when accounting for past traumas, age, and depression, the administration of hydrocortisone provided unique and significant variance in PTSD symptomology. When analyzing each cluster of PTSD individually the administration of hydrocortisone accounts for a significant amount of variance only in the hyperarousal cluster $F(4, 32)=10.920$, $p < .001$, $R2 = 13.9\%$. Administering a low dose of hydrocortisone resulted in lower hyperarousal symptoms compared to the placebo group. Conclusion: Prior research indicates that there is a negative correlation between salivary cortisol and hyperarousal symptoms over time. Hydrocortisone administration is related to lower hyperarousal symptoms and this is likely due to the vital role that cortisol plays in the HPA axis.

Gastelle, Marissa et al.

Psychological Sciences, Poster Location

Latina adolescent mothers often parent in stressful conditions (Grau et al., 2012). High levels of stress (e.g., economic strain, life stress) are associated with poor parenting adjustment and negative child outcomes (Crnic et al., 2005). Latino values may strengthen the perceived importance of the maternal role, and a strong parenting attitude may facilitate parenting adjustment (Guendelman et al., 2001). This study examined whether a strong parenting attitude functioned as an asset or a protective factor for young Latina mothers (N=170; predominantly Puerto Rican) perceptions of parenting stress during the second year postpartum. Variables included: familism (Lugo & Contreras, 2003); attitude toward the parenting role (Mylod et al., 1997), sources of stress (economic, life events, child negative reactivity); and parenting role and child domain stress (PSI, Abidin, 1990). Higher levels of familism were associated with stronger maternal attitudes ($r=.33$, $p<.001$). Regression analyses indicated that, although parenting attitudes did not buffer the effect of specific stressors, they had a unique association with lower levels of parenting role and child domain stress. Findings suggest that Latino values supporting positive maternal role attitudes may be beneficial to

the parenting adjustment of adolescent mothers, and encourage exploration of interventions promoting them (Azkan & Polat, 2011).

Gerhart, Hayden et al.

Health Sciences, Poster Location

PURPOSE: To investigate gender differences seen in working memory and mood state resulting from low to moderate exercise in normobaric hypoxia. METHODS: 27 healthy adults volunteered for this study. A submaximal exercise protocol determined the VO2/Watt(W) relationship performed on the cycle ergometer. The experimental trial consisted of two 15min. bouts of submaximal exercise in hypoxia separated by 15min. rest. VO2, HR, Oxygen Saturation (SpO2), BP, regional cerebral oxygenation (rSO2), and cognition were assessed during each stage of exercise. Repeated measures ANOVA was utilized for analyzing all dependent variables. RESULTS: Men had significantly higher values for VO2 max (men:47.0±7.7ml/kg/min: women:40.9±4.6ml/kg/min), adjusted VO2 max (men:34.2±5.6ml/kg/min: women:29.8±3.3ml/kg/min), 60%W (men:101±23: women:68±10), 40%W (men:52±16: women:35±10), and MAP during 60% exercise (men:93.0±6.2mmHg: women:85.8±8mmHg: p=0.013). Throughput score of RMCPT was significantly higher than hypoxic baseline during both exercise intensities (40% p=0.006: 60% p=0.001) with no difference between intensities (p=0.512). TMD was significantly improved at 40% (-89.4±56.4, p=0.003), but not at 60% (-71.1±63.4, p=0.074), leading to a significant difference between intensities (p=0.017). No gender differences were found in throughput score of RMCPT (p=0.352) or TMD (p=0.077). CONCLUSIONS: An acute bout of low to moderate exercise in hypoxia can improve cognitive functioning and mood state in males and females.

Gharehgozlou, Saloomeh

Architecture, Poster Location

Urban Heat Island (UHI) intensity increases by different physical features that affect the climate. Urban structures absorb and retain the heat and cause higher temperature in cities compared to surrounding rural areas. Reducing the surface temperature of roofs can be very helpful in balancing the thermal condition in the case of UHI. This is mainly because roofs form a large part of buildings that is exposed to solar radiation. Cool roofs with lower temperatures can be used instead of traditional roofs in order to reduce both the overall temperature of buildings and the absorption of

solar radiation. Unlike traditional roofs, which are made of materials and colors that absorb and preserve the heat, cool roofs facilitate the reflection of the sunlight and heat. This study examines the efficiency of using cool roofs instead of traditional roofs by estimating the extent to which they can contribute in preventing UHIs. To this end, the study will use ENVI-MET software to calculate the current temperature of buildings in an urban site in Kent, Ohio, and further simulate the buildings with cool roofs in order to find out how much lower the overall temperature would become when cool roofs are employed.

Ghassemi, Mina et al.

Podiatric Medicine, Poster Location

Background: Changes in foot temperature can occur in various disease states. These changes can indicate the onset of foot complications. The purpose of this study was to compare resting foot temperatures in healthy individuals and patients with diabetes or neuropathy. Methods: 149 feet were divided into 3 groups: 1) healthy (n=50), 2) diabetic (n=50), and 3) neuropathic (n=49). The neuropathic group was further subdivided into diabetic neuropathies (n=20) and non-diabetic neuropathies (n=29). Temperature measurements were recorded at nine distinct foot locations (six plantar, three dorsal). Data was statistically analyzed using the Kruskal-Wallis test with significance defined as $p<0.05$. Results: Temperatures in the diabetic foot tended to be higher than in the healthy controls, with significant differences at five sites. At seven sites, temperatures in the diabetic foot tended to be warmer than those in both diabetic and non-diabetic neuropathic feet. Significant temperature differences existed between the diabetic foot and non-diabetic neuropathic foot at six sites. There were no significant temperature differences between the diabetic foot and the diabetic neuropathic foot. Conclusion: Foot temperature is significantly increased in the diabetic foot. Studies to further evaluate the effect of various neuropathies on foot temperature are warranted.

Ghimire, Pramila et al.

Chemistry & Biochemistry, Poster Location

Activated carbon-silica composite materials were prepared by soft-templating using formaldehyde and resorcinol as carbon precursors, tetraethylorthosilicate as silica precursor, and triblock copolymer Pluronic F127 as a structure directing agent, followed by carbonization and subsequent

activation with KOH. The carbonized material was mainly mesoporous with well-developed surface area, large total pore volume, with only moderate CO2 uptake. In order to enhance CO2 uptake, microporosity of the carbonized material was enlarged by the aforementioned activation. The resulting activated carbon-silica composites showed high specific surface area of 869 m2/g, total pore volume of 0.63 cm3/g, and substantial volume of micropores and small mesopores (volume of ~0.29 cm3/g for pore sizes below 3.5 nm). The activated composites showed very good adsorption properties toward CO2 at ambient temperatures with CO2 uptake up to 5.5 mmol/g at 0°C and 760 mmHg. This work further reports a strategy for successful incorporation of basic species such as amidoxime groups into the aforementioned carbon-silica composites to enhance sorption of CO2 at elevated temperatures (60-120 °C). The latter materials were prepared by two-step process involving: (1) post-synthesis grafting of mesoporous carbon-silica composites with cyanopropyl groups, and (2) conversion of cyanopropyl groups into amidoxime groups upon treatment with hydroxylamine hydrochloride under suitable conditions. The CO2 uptake of the resulting amidoxime-containing mesoporous carbon-silica composites is expected to be higher at ambient as well as elevated temperatures.

Giovengo, Anthony

Chemistry & Biochemistry, Poster Location

Vitamin B12 derivatives, also known as cobalamins (Cbls), are dietary essential micronutrients obtained from meat and seafood. While it has long since been established that B12 is essential for human health, the intracellular storage and processing mechanisms involved remain poorly understood. Although it is accepted that B12 is primarily stored in the liver and kidney, little is known about the storage location(s) inside the cell or the proteins utilized for this process. In order to investigate these processes, several novel vitamin B12 conjugates have been developed. Conjugates incorporating quantum dots, magnetic particles, and organic fluorescent dyes have been prepared utilizing an adipic acid dihydrazide linker conjugated at the 5OH of cyanocobalamin. It is well established that incorporating even large and bulky molecules at this site has little effect on the binding to transport proteins, and therefore the uptake of these modified vitamin B12 derivatives.While previous studies of fluorescent cobalamins produced compounds of limited utility, the combination of fluorophores and linker molecule chosen for this work yielded products with no discernable quenching. As such, these compounds are ideal for use in live cell confocal microscopy for tracking the uptake of B12. Lastly, the magnetic particles conjugated B12 has been used for the

isolation of cobalamin binding proteins from whole cell lysate from liver and kidney cell lines as well as from subcellular fractions form these cell types. The collected proteins will be subjected to analysis at Case Western University's proteomics core facility for identification.

Goodridge, Erin

Lifespan Development & Educational Science, Poster Location

In the field of Early Intervention it is crucial that parents are informed on strategies that are relevant to their child's learning and development. Many children that receive Early Intervention services have some delays in communication. It is important that parents are given useful strategies and are coached on implementing them in order to promote communication with their child. This study will look at the effects coaching has on parent-implemented strategies to increase child communication during play. The strategies the parent will receive coaching on include enhanced milieu teaching, mand-modeling, and environmental arrangement. Parents will learn how to embed the language strategies in the context of play. Child communication will be measured by: gestures, vocalizations, word approximations, and words. Single subject design with a baseline and intervention condition data will be presented.

Gordon, Alynn et al.

Psychological Sciences, Poster Location

Egalitarian essentialism- the simultaneous endorsement of gender equality and the idea that women and men are inherently different- is hypothesized to be a potential culprit for stalls in gender egalitarianism in the general population. However, no measure of this construct or a test of it as an endorsed attitude exists. The focus of this study was to create and test a preliminary measure of egalitarian essentialism in the general population to determine if a group of individuals in the United States endorse egalitarian essentialism.

Goswami, Suranjana et al.

Biological Science, Poster Location

Several studies have shown that cAMP plays an important role in sperm motility and activation. The actions of cAMP in sperm involve Protein Kinase A mediated protein phosphorylation. In our study we are trying to use a novel chemical-genetic approach to identify proteins which are phosphorylated

by PKA during sperm motility. In this approach the structurally conserved ATP-binding pocket in Protein Kinase A is genetically modified (analog-sensitive-Protein Kinase A) to generate mutant allele, this mutant protein will in addition to ATP, can also utilize specific ATP analogs. Only the as-mutant kinase, but not the wild type kinase, can use N6-substituted ATP analogs as phosphate donors. Thus, only substrates of the as-mutant kinase are labeled by the ATP analogs. Another recent advance in this approach was the development of an affinity tagging technique where the ATP-analog labeled proteins can be recognized by specific antibodies. In this approach following labeling of substrates with N6-(benzyl)-ATP-Δ^3S, the thio-phosphate group on the polypeptides is alkylated by para-nitrobenzylmesylate (PNBM) to create an epitope that can be detected by specific antibodies to the thio-phosphate ester. Identification of the protein substrates of sperm PKA will be a major advance in our understanding of the regulation of sperm function and male fertility.

Gunathilake, Chamila et al.

Chemistry & Biochemistry, Poster Location

Amidoxime-functionalized microcrystalline cellulose (MCC)-mesoporous silica composites were prepared for the first time by a two-step process. First, microcrystalline cellulose (MCC)-mesoporous silica with cyanopropyl groups (MCC-CP) was obtained by solvent evaporation-induced self-assembly of MCC, tetraethylorthosilicate, and (3-cyanopropyl)triethoxysilane in the presence of Pluronic P123 triblock copolymer under acidic conditions. In the next step, the resulting material was treated with hydroxylamine hydrochloride to convert cyanopropyl groups into amidoxime functionalities to obtain mesoporous MCC-AO composite. A series of the MCC-CP and MCC-AO samples was examined for CO2 sorption at ambient (25oC) and elevated (120oC) temperatures. While the MCC-CP and MCC-AO samples showed relatively low CO2 uptake at ambient conditions, they perform very well at elevated temperature (120 oC) reaching the CO2 sorption capacities of 2.15-2.41 mmol/g (MCC-CP) and 2.84-3.85 mmol/g (MCC-AO). The CO2 sorption capacity of MCC-AO at 120 oC exceeds the values reported so far for many other sorbents, which makes this material attractive for CO2 capture in addition to its biocompatibility, biodegradability, non-toxicity, low cost, cycle stability, and good thermal and mechanical stability .

Haberman, Pamela

Architecture, Poster Location

This study investigates whether or not having a LEED hospital and sustainable materials changes the way the staff works. It is important to consider better ways to improve the environment because according to the U.S. Energy Information Administration, hospitals' which operate 24 hours a day, 365 days a year, use twice as much energy as typical buildings and spend nearly $8.8 billion on generated power each year. The healthcare industry is responsible for 8% of total U.S. greenhouse gas emissions. What would the effect on the everyday work environment be when incorporating better materials? By comparing interior materials in a non-LEED facility with the materials of a LEED hospital, does the staff change the way they have to work, and do the updated materials truly help the environment? Research to be determined is the specifics in whether or not LEED and sustainable practices are good for the work environment. The expected outcome of this research is to identify the areas in hospitals that are useful for a sustainable life; and to discover if the use of sustainable materials are not just better for the overall environment, but better specifically for the people using them.

Hammer, Aimee

Psychological Sciences, Poster Location

Past research has shows that mothers' use of gentle guidance is associated with greater child compliance, while mothers' use of control is related to child defiance (Karreman et al., 2006). Given that Latina and adolescent mothers are more likely to experience high levels of parenting-related stress and demonstrate high levels of control and directiveness (Chaudhuri et al., 2009), research is needed to demonstrate how these behaviors are associated with children's behavior. This study included 146 Latina adolescent mothers who were assessed when their children were 18- and 24-months old. We sought to examine whether maternal reported levels of stress at wave 1 would influence levels of maternal guidance and control behaviors at wave 2 (Kochanska et al., 1995). When controlling for maternal guidance and control behaviors, child's age and reactivity, and child compliance at wave 1 and 2, we found that mothers who reported higher levels of child-related stress at wave 1 showed a decrease in the use of guiding behaviors across time. Furthermore, mothers who reported higher levels of parenting role stress at wave 1 showed an increase in their use of controlling behaviors. These findings suggest parenting stress as a target for intervention for adolescent mothers.

Harper, Sara et al.

Health Sciences, Poster Location

Limb imbalance historically refers to the difference in muscular strength between limbs represented as limb symmetry index (LSI) = (1-non-dominant limb (NDL)/dominant limb (DL))*100. PURPOSE: Determine if peak torque LSI is associated with aerobic capacity LSI (VO2 peak and time to fatigue). METHODS: Participants (N=20, 8M, 12F; 23±3 years old, 70.2±13.6 kg) performed maximal knee extensions for each limb at 60, 180, and 300 degrees/second. The limb which produced the greatest, average peak torque was deemed DL. Single leg cycling VO2 peak tests were performed for each limb determining VO2 peak and time to fatigue. T-tests compared differences between limbs and Pearson R correlations compared LSI for average peak torque, VO2 peak, and time to fatigue. RESULTS: Average peak torque (DL = 87.3±35.7 Nm, NDL = 73.3±34.1 Nm, P=0.001). VO2 peak (DL = 16.8±4.2 ml/kg/min, NDL = 16.1±3.4 ml/kg/min, P=0.265). Time to fatigue (DL =10:55±3.46 minutes, NDL = 11:18±2.43 minutes, P=0.242). Correlation for LSI average peak torque and VO2 peak (R=.011, P=0.962); correlation for LSI average peak torque and time to fatigue (R=-.211, P=0.349). CONCLUSION: Though there are significant imbalances in average peak torque between limbs, LSI correlation results suggest imbalances in muscular strength are not associated with aerobic capacity.

Heller, Caleb et al.

Architecture, Poster Location

In July 1995, a heat wave struck the City of Chicago causing 739 heat-related deaths in few days. This study provides a comprehensive analysis of the outdoor and indoor environmental conditions that might have occurred in July of 1995. Three sites where multiple deaths occurred were selected for the study, each representing different architectural and urban conditions. Site climate data was synthesized using microclimate simulation. The climate data generated was then used to estimate the internal conditions of apartments where deaths occurred. The estimated interior conditions show a two-day time lag between the outdoor and indoor peak heat stress. This helps explain why heat stress fatalities peaked days after the heat wave began to subside. This research established that heat related fatalities are likely to occur in extreme heat episodes if the air-conditioning fails and residents are frail, unable, or unwilling to accept help and relocate at night. The results also demonstrated that trees and vegetation may reduce the impact of urban heat island, but do not negate the extraordinary conditions created by a heat wave.

Helton, Adrian et al.

Architecture, Poster Location

Global re-urbanization is happening at an exponential rate, faster than any time in history (US Census Bureau), faster than the rates of infrastructure and developments. Affordable housing projects are popping up, and replacing existing developments in dis-repair in response to this movement, most of which are impersonal, poorly built, claustrophobic and dangerous - causing people to alienate their neighbors in fear of their safety. The solution - participatory design: an old concept with new meaning. The goal of participatory design is to involve a community, in the process, including design, construction and post construction phases to create sustainable, low-cost housing. Participatory design creates a sense of ownership, pride and community. A brief look into successful and unsuccessful participatory design projects will show what makes a project successful. Through research and data collection we will challenge a successful local participatory project to see if the community is functioning as intended. The goal of this research and data collection is to show the relevancy and potential benefit of excellently choreographed participatory design in shaping the neighborhoods and communities as well as furthering the discourse and helping direct where further research needs to be placed.

Hertzfeld, Eleanor et al.

Architecture, Poster Location

This paper will research the effects that vegetation has on reducing the urban heat island (UHI) and how it can be applied to the city of Cleveland, Ohio. Based on information gathered from the United States Environmental Protection Agency (EPA) among other sources, research shows that trees and vegetation significantly decrease energy use as well as improving air quality. By analyzing the proposed 2004 waterfront district plan, the effects of vegetation can be researched effectively through the analysis of current data regarding temperatures and human activity as well as simulation. Through literature reviews as well as data collection of current carbon dioxide emissions and temperatures, a base can be built to accurately determine whether or not vegetation helps to reduce the urban heat island. Using the proposed 2004 waterfront district plan and data collection, simulation can be conducted to compare the data and come to a conclusion on the effectiveness of vegetation on the reduction of the urban heat island. This information and analysis can then be used to inform on the effects of the urban heat island and how integrating vegetation into the urban fabric may help to reduce the urban heat island.

Hill, Amber

Geography, Poster Location

Lake Erie has experienced algal blooms since the 1960s. Bloom severity has increased over the past decade raising concerns about the socio-economic consequences of degraded water quality. The algal bloom outbreak in August 2014 threatened the drinking water supply to over 400,000 residents for the City of Toledo. Environmental hazard events can be subject to processes of social amplification that guide decision-making actions that can be economically harmful. This study uses traditional and social media (Twitter) to examine expert communication and public perception of risk guided by the Social Amplification of Risk Framework (SARF). Newspaper articles and Twitter feeds were collected using keyword searches to encompass two major algal bloom outbreaks. A content analysis, guided by the SARF framework was conducted to characterize associated risks based on: (1) media framing, (2) expert opinion, and (3) public response. Preliminary results reveal that the majority of conventional and Twitter activity can be sourced to expert groups, issue warnings, or assuring the public of safety. Public response as gauged by Twitter, frames Lake Erie water as unsafe for recreation and drinking. Preliminary data shows some mismatch between expert and lay interpretations of risk, suggesting that processes of social amplification may be occurring. Future research will validate trends in perceptions gauged by as well as examine whether the public trust the news, government, or other source during the outbreak.

Hogan, Ian

Math, Poster Location

We use the fundamentals of linear algebraic groups and root systems construct the Brauer Complex of the rank four finite symplectic groups. The labels of the Complex are Deligne Lusztig generalized characters. The Complex was original studied by J. Humphreys, and a theorem of his allows for the construction of characters of projective modules. In particular, we determine patterns of decomposition for the series of groups in question.

Hussein, Nazar et al.

Biomedical Science, Poster Location

Bone is a dynamic organ that is made of different cell types (osteoblasts, osteoclasts and osteocytes). Osteoclasts are the bone resorbing cells. Osteoclast function is associated with normal bone remodeling and diverse erosive bone diseases. Vesicular trafficking is critical for the function of bone cells. Recent studies dissected the role of the endolysosomal system and its associated factors in both bone formation by osteoblasts and bone resorption by osteoclasts. These factors include proteins that coat the vesicle, GTPases of the Rab family, fusogenic SNARE proteins and tethering factors that coordinate or participate membrane tethering and trafficking (TRAPP Complex). Trafficking Protein Particle Complex 9 (TAPPC9) is a major subunit of TRAPP Complex. In this study, we examine the expression and function of TRAPPC9 in bone cells. TRAPPC9 is highly expressed in both osteoblasts and osteoclasts. We next examined the co-localization of TRAPPC9 and trafficking proteins such p150-Glued, and found that TRAPPC9 binds to p150-Glued. We next examined the co-localization of TRAPPC9 with cathapsin-K (Cathp.K) , known to mediate osteoclast resorption. TRAPPC9 was also co-localized with vesicles containing Cathp.K suggesting that TRAPPC9 mediate the trafficking and function of osteoclasts. Studies are underway to determine the effects of modulating TRAPPC9 on osteoclast trafficking and function using ex vivo and in vitro approaches.

Iskander, Jeannette et al.

Psychological Sciences, Poster Location

Objective: This study compared anxiety, adherence, and responsibility for daily activities between adolescents with sickle cell disease (SCD) and healthy controls, and evaluated whether anxiety predicts reported adherence and responsibility. Method: Participants were 29 African-American adolescents (M=14.36) with SCD and 38 African-American healthy controls (M=14.24). Participants completed an anxiety questionnaire and a measure which assesses adherence to daily activities and who is responsible for completing these activities. Results: Healthy adolescents reported engaging in more routine daily activities and taking more responsibility for these activities than adolescents with SCD. Healthy adolescents also showed a trend toward higher levels of anxiety than adolescents with SCD. Anxiety did not predict adherence or responsibility to daily activities for either group. Conclusion: Differences between groups regarding completing and taking responsibility for daily activities may suggest differences in priorities. Adolescents with SCD may prioritize their treatment regimen. Findings suggest the need for teaching adolescents with SCD to

focus on daily activities and their medical regimen. Because daily activities are routine, anxiety may not significantly impact these behaviors.

Jaber, Fatima et al.

Biomedical Science, Poster Location

Autophagy plays an important role in bone homeostasis where it regulates both osteoblast and osteoclast differentiation and function. Glycoprotein nmb (Gpnmb), also called osteoactivin (OA) (Gpnmb/OA) is a novel protein discovered in our lab that positively regulates osteoblast and negatively regulates osteoclast differentiation and function, respectively. Recent evidence showed Gpnmb/OA binds to microtubule-associated protein light chain 3 (LC-3II), a maker indicative of autophagic activity and stimulates the recruitment and formation of autophagosomes. In this study, we investigated whether Gpnmb/OA regulates osteoblast differentiation and function by mediating the autophagy pathway. First, we examined the expression of Gpnmb/OA in osteoblast following induction of autophagy. MC3T3-E1 osteoblast-like cells were treated with Trehalose (TH), a mTOR-independent autophagy enhancer. TH treatment induces autophagy associated with increased expression of Atg5, ATG 7, and Beclin and Gpnmb/OA is dose- and time-dependent manner. Next, we assessed the effect of TH treatment of autophagosome formation. Transmission electron microscopy (TEM) analysis showed that TH treatment causes induction of autophagosome formation associated with the formation of double membrane of autophagic vesicles compared to untreated control cells. Next we determined whether Gpnmb/OA binds LC3II in osteoblasts, MC3T3-E1 cells were transfected with either GFP-LC3II or control empty vector (GFP-EV) followed by TH treatment. Immunoflorescent analysis revealed that osteoblasts display a punctate distribution of LC3II that co-localized with Gpmnb/OA suggesting a role of Gpnmb/OA in autophagy in bone cells. Next, we examined the ability of osteoblast-derived form Gpnmb/OA mutant mice to induce autophagy. Gpnmb/OA mutant osteoblasts showed significant reduction of autophagy associated with LC3II expression and autophagocytic markers. Based on these finding, our data suggest that Gpnmb/OA is a major regulator of autophagy induction to maintain bone cells survival and homeostasis.

Jimenez-Rodriguez, Pablo et al.

Math, Poster Location

Interpolation Theory gives techniques for constructing spaces from two initial Banach spaces, X and Y. We provide several conditions under which the restriction of an analytic map f defined over X+Y to the interpolated spaces , where f is compact when restricted to the extremal spaces X and Y, is also compact. To accomplish this, we prove various preliminary results which we believe have their own interest, in Interpolation Theory in particular and in Functional Analysis in general.

Jones, Danielle et al.

Architecture, Poster Location

Through the specification of fire disasters in buildings and inhalation dangers to the victims, literature review will focus on proving that the national disaster of September 11th and the falling of the World Trades Center could have been a less traumatic event. The paper will begin by setting the stage for what a resilient city is and how this applies to the region in which the World Trades Center fell. Using multiple case studies and interviews on the specifics of the tragedy, a larger understanding of how unprepared the city was and the steps taken moving to a better resiliency will be explored. The paper will then examine the specific causes and quantitative accounts as to why the collapse escalated as such and prove how with proper design and a series of building code ramifications, more lives could have been saved. In conclusion the research may prove as a simple reiteration to information already existing however there is potential to uncover sublime aspects of the tragedy that better future communities and building design.

Junglen, Angela et al.

Psychological Sciences, Poster Location

The aim of this analysis was to determine the impact of catecholamines on the change in PTSD symptoms following a psychological intervention of Prolonged Exposure Therapy (PE). The sample included individuals living with HIV and experiencing PTSD symptoms due to the HIV diagnosis. Participants were assigned to 5 weeks of PE (PE group) or 5 weeks of check in phone calls (control group). Catecholamines (norepinephrine, epinephrine and dopamine) were collected through a 24-hour urine sample at pre-treatment. To understand the change in HIV-PTSD symptoms (PTSS) over 5 weeks, the standardized residuals were computed as a method for expressing the difference between the predicted and observed scores. A moderation analysis was ran, evaluating whether receiving treatment moderated the relationship between catecholamines and standardized residuals

of HIV-PTSS. Baseline levels of dopamine predicted PTSD symptom change moderated by group (b=-.0053, t(48)=-2.7, p=.010), accounting for 70% of the variance. Lower levels of dopamine in the control group predicted higher symptoms over time whereas individuals with higher baseline levels of dopamine have similar HIV PTSS compared to the PE group. Dopamine had no effect on symptom change for the PE group. Results suggest triaging individuals with lower levels of dopamine to treatment to manage symptomology.

Kadariya, Jhalka et al.

Public Health, Poster Location

This study aimed to assess the prevalence and molecular characteristics of Staphylococcus aureus among Bhutanese refugees living in Nepal and in Northeast Ohio (NEO). One hundred adult Bhutanese refugees from each location were enrolled between August 2015 and January 2016. The participants were interviewed to collect the demographic information and exposures to potential risk factors for carriage. Nasal and throat swabs were collected from each individual and processed within 24 hours according to the study protocol. All S. aureus isolates were typed by spa typing and multi-locus sequence typing (MLST). The presence of the Panton-Valentine Leukocidin (PVL) and mecA genes were detected via PCR. Of the 100 participants enrolled in Nepal, the median age was 35 years (mean 36.75; standard deviation, 13.28). The overall prevalence of S. aureus was 45% (45/100). The prevalence of MRSA was 2% (2/100). The overall prevalence of PVL genes among S. aureus isolates was 25% (13/52). A total of 31 spa types were detected from 52 S. aureus isolates. Twenty-one isolates (40.4%) were multi-drug resistant. Analyses of data from NEO are ongoing. The findings of this study indicate that Bhutanese refugees living in Nepal had high prevalence of S. aureus and multi-drug resistant S. aureus.

Karto, Zachary

Architecture, Poster Location

Green roofs retain water well but, are poor at removing nutrients. In a study conducted by the American Society of Agricultural and Biological Engineers on the water quality of green roof runoff, the runoff demonstrated high concentrations of nitrogen (TN) and phosphates (TP). This research proposes to make use of the high level of nutrients produced by green roof runoff in the heating of a building. This is accomplished by using a Trombe wall with algae, a known nutrient exporter. The

traditional Trombe wall uses solar energy by trapping heat between glass panel, air layer, and a high heat capacity wall often coated with heat absorbent material. Heat rapped is either used directly to heat up spaces or exhausted. Solar radiation absorbed by the wall transmit heat into occupied adjacent spaces. The purposed improvement includes the addition of a water column between the Trombe wall and glass panel. This water uses runoff from the green roof, which is allowed to inoculate with algae. The algae are known to produce heat energy during respiration. The research aims to improve the overall effectiveness of the Trombe wall and green roof, which is first accomplished by mathematical models then by scaled experimentation.

Kauffman, Jordan et al.

Visual Communication Design, Poster Location

Art museums continue to grow their collections beyond their physical public display space. With this growth how do museums know what things people want to see on display at any given time? Our group has designed a customizable system and interface to help solve this problem and bring people together. Our poster will show our design process, the system design, user experience, space planning, and environmental graphic design in the context of an art museum.

Kershner, Leah et al.

Biological Science, Poster Location

Receptor for activated C kinase (RACK1) is a multi-functional ribosomal scaffolding protein that can interact with a number of signaling molecules concurrently. We recently found that RACK1 is localized to growth cones in the developing mammalian nervous system, prompting an investigation into its role during neural development. Here we show for the first time that RACK1 is localized to point contacts within cortical growth cones. Point contacts are adhesion sites that link growth cones to the extracellular matrix, and are necessary for appropriate axon guidance. Thus, we investigated the role of RACK1 at point contacts. We found that RACK1 is necessary for point contact formation and the density of point contacts within growth cones increases following brain-derived neurotrophic factor (BDNF) stimulation in a RACK1 dependent manner. RACK1 shRNA knockdown significantly lowers basal point contact density and eliminates the BDNF-induced increase in point contact density. Overexpression of non-phosphorylatable RACK1 also eliminates the BDNF-induced increase in point contact density. We also examined the role of RACK1 in axon growth, and found

that axonal growth requires both RACK1 expression and phosphorylation. Taken together, these data suggest that RACK1 is a critical member of the point contact complex and necessary for appropriate neuronal development.

Kirkwood, Rachel et al.

Architecture, Poster Location

Various methods for mitigating the urban heat island effect have been developed. An impactful approach to reduce excessive heat gain is to use "cool" surface materials (or cool-coated materials) in cities. These cool materials are often light in color and therefore have a higher albedo than do most of the existing city surfaces. Since a significantly large portion of a city's ground coverage is composed of dark asphalt, the benefits of repaving those surfaces with a cool material are proportionately noticeable. This study seeks to assess the effectiveness of cool repaved roads in improving the comfort level of pedestrians at the ground level. Sensor measurements will be taken under a variety of different conditions that pedestrians may experience on a city street composed of different cool materials. The collected data will be analyzed and compared to simulations in order to verify and validate the model. This research outcome will suggest that high albedo materials should be considered when resurfacing existing city roads.

Klonowski, Kate

Foundations, Leadership, & Administration, Poster Location

One of the current challenges in education is confronting the issue of segregatory practices in schooling that limit the exposure of students to different populations. The concern is that without the experience of working with a diverse group of students in problem-based learning activities, the development of intercultural understanding and dialogue is potentially diminished. Power structures based on social capital mean that students can perceive themselves as being above or below others in terms of their abilities to transcend or traverse cultural barriers of understanding. In order to move toward a more equitable and practical educational experience for students, a pilot case study was implemented to see how students in isolated educational institutions with vastly different demographics would respond to the opportunity to work together on a year-long, joint project of journalistic inquiry and production.

Kobzowicz, Kimberly et al.

Health Sciences, Poster Location

Details and experiences of a mission trip taken to Zacapa, Guatemala to provide hearing healthcare services to those in need. Insight to working with those less fortunate and overcoming lingual and communication disorder barriers.

Kochendorfer, Logan et al.

Psychological Sciences, Poster Location

Romantic relationships play a significant role in the lives of adolescents. Research shows that the time of involvement and the quality of adolescents' romantic relationships influence adolescent outcomes (Collins, Welsh, & Furman, 2009). Thus, understanding the predictors of adolescent romantic relationship involvement and quality is important. Previous research has shown that adolescents' popularity, the quality of their close friendships and their attachment relationships with their parents relate to romantic relationship involvement and quality (Sroufe, Egeland, & Carlson, 1999; Connolly, McIsaac, & Underwood, 2011). The research on these predictors seems to indicate a unique and direct influence on romantic relationship involvement and quality. However, other work indicates that the attachment relationship's influence on romantic relationship involvement and quality may be mediated by peer status and the quality of the child's close friendships. Much of the work in this area explores the influence of parents and peers separately, however, and often age differences in involvement and quality have not been thoroughly examined. To address these gaps in the literature, ongoing analyses utilize the NICHD data set to clarify the influences of parents, peers, and close friends on romantic relationship involvement and quality for adolescents at ages 12 and 15.

Kramer, Andrew

Anthropology, Poster Location

Archaeological reconstruction of past diet has classically relied upon material evidence gained from midden pits, burials, and ceramic cooking vessels. While these artifactual analyses provide supporting evidence of what a past culture may have been exploiting, they do not provide clues as to the differentiation between organic materials as food and materials as medicine. By examining dental calculus, one can ascertain the exact diet of an individual prior to death. This project aims to determine which organic elements are being used as food and which as medicine at a Middle

Woodland site in Ottawa County Ohio named the Libben Site. Dental Calculus has been removed from the dentition of 56 individual burials ranging from ages 10 to 40 at time of death. The calculus has been subjected to carbonate dissolving (using diluted hydrochloric acid) which unlocks dietary elements contained within the calculus matrix such as pollen, phytoliths, plant fibers, and starches. Samples were then examined and constituent dietary elements were identified using of polarized light microscopy. This project seeks to present the dietary elements contained within the dentition of the Libben people and to verify assertions made by Mary Lou Harrison in her taphonomic analysis of the Libben site.

Krishnan, Anjali et al.

Biological Science, Poster Location

Excessive nutrient loading has led to the formation of toxin producing harmful cyanobacterial blooms (CyanoHABs) in Lake Erie which release microcystins (MCs). MCs are liver toxins removed through microbial activities in natural environment. Lack of understanding the taxonomic composition and functionality of microcystin-degrading bacteria (MC+) restricts our knowledge of their ecology and dynamics. Isolates from Lake Erie water and sediment samples were screened for MC+ bacteria using MT2 BIOLOG plate with MC (1¼g/ml). MC+ bacteria identified using 16S rRNA Sanger sequencing were characterized with single and mixed culture assay. PCR amplifications were performed examining the presence of mlr MC-degrading pathway. Of the 900 isolates, 40 identified as MC+ bacteria showed taxonomic diversity with Bacillus, Pseudomonas, and Streptomyces spp. Single culture assay showed greater MC degradation rate in the presence of additional sources of C and N, and mixed culture experiments with two MC+ strains revealed greater MC degradation than for single MC+ bacteria. PCR detected the absence of mlr degrading pathway, indicating the presence of a novel MC degrading pathway. Identifying the phenotypic characteristics of MC+ bacteria builds our knowledge of their utilization as biofilters for water filtration and the future work will investigate the genes involved in MC degradation.

Kubisova, Zuzana

Visual Communication Design, Poster Location

Early childhood development is considered as the most essential and rapid period in human life, that forms the quality of health, well-being, learning and social behavior across the human lifetime. Even

half of the human intelligence is developed by age four and this early period of childhood have a direct and long-lasting effect not only on child intelligence, personality, and social behavior but also on their development what adult they will become. However, regarding the fact the rapid advance of technology that has come along with the social progress of increasing performance pressure became an integral part of human life has undoubtedly changed the way of people thinking in that way that they rely more and more on technology than on human abilities. Unfortunately, this fact has its impact on people of all ages, including children as well. Alarming research showed that more half of 4-years kids use the gadgets on a daily basis resulting in rapid increase in the physical, psychological and behavior disorders. On the other hand, children are creative and they do prefer play and toys before technical devices. Only parents are the ones making the decision of purchase first, who can significantly affect child's life.

Kuian, Mykhailo et al.

Math, Poster Location

In my research specific class of inverse problems is considered. We propose a mathematical method of finding an optimal control parameters to reduce sensitivity of system’s solution to errors in control parameters. The method is applied to particular case of polarized light microscopy, PolScope microscope.

Lancki, Kevin et al.

Sociology, Poster Location

There has been an increased interest in research on grandparents relationships with grandchildren. However, literature still lacks a clear understanding of grandfathers participation in activities related to their role of family historian. The term lineage work refers to the effort that grandfathers put forth to help grandchildren understand their family’s history (Bates, 2009). We examine three age cohorts of grandfathers to determine which group participates most frequently in lineage work activities. Grandfathers (N = 351, M = 68.4 yrs.) were grouped into three age categories, pre-retirement (n = 111), young-old (n = 127), and old and old-old (n = 109). Grandfathers reported their participation in lineage work with six items on a 4-point Likert scale (1 = strongly disagree to 4 = strongly agree), then scores were summed (M = 18.15, SD = 4.53, range = 6 to 24; ± = .91). A 1 (lineage work-dependent variable) x 3 (grandfather age groups-independent variable) analysis of

variance (ANOVA) was conducted with follow-up tests. ANOVA results indicated significant group effects for lineage work, $F(2, 346) = 7.96$, $p < .001$. Results indicated that grandfathers in the pre-retirement group had significantly less participation in lineage work than grandfathers in young-old and older groups.

Laspina, Catherine

Chemistry & Biochemistry, Poster Location

Rheumatoid Arthritis (RA) is an autoimmune disease that causes inflammation in joints leading to swelling and pain. Out of any chronic disease in the US, arthritis results in the most disability. RA is the third most common form of arthritis affecting one and a half million Americans and about one percent of the global population. Curcumin is a natural compound found in turmeric, an Indian spice, and is well known for its anti-inflammatory effects. However due to its hydrophobicity, it has low bioavailability. This is overcome by loading curcumin on hyaluronic acid, an extremely hydrophilic molecule to create a hyaluronic acid curcumin conjugate (HA-Curc). Hyaluronic acid naturally occurs in the body, helps to reduce inflammation and is taken up via CD44 receptors. CD44 receptors are overexpressed in inflammatory sites allowing for targeted uptake of HA-Curc. Curcumin is attached to hyaluronic acid via an acid-labile bond through Schiff base chemistry. UV-Vis and Infrared Spectrometry were used to characterize the Schiff base formation. Compared to free curcumin, HA-Curc demonstrates higher solubility increasing its bioavailability and potential to be used for therapeutic treatments. MTS assay shows low cytotoxicity and confocal demonstrates uptake of HA-Curc by Hela cells.

Latsko, Maeson S. et al.

Psychological Sciences, Poster Location

The current study utilized a mild repeated social defeat model to investigate the impact of early life social stress on subsequent social behavior. Social defeat in adults typically results in two phenotypic responses during a social interaction test: social approach (resistance) and social avoidance (susceptibility). However, 24 hours after social stress, prepubertal rodents display resistance. When the same mice are tested in adulthood, a split in phenotype is observed. Some mice remain resistant, and some mice become susceptible. To investigate the development of these phenotypes, we measured neuroendocrine response after social interaction. Our previous data showed that

prepubertal defeated mice that remain resistant into adulthood showed high levels of prepubertal corticosterone compared to susceptible and control mice. The present study manipulates corticosterone immediately after social interaction to determine if high early life corticosterone shaped adult social behavior. These data will help determine how neuroendocrine mechanisms interact with development to influence the ontogeny of responses to prepubertal social stress.

Lei, Yu

Theater, Poster Location

My presentation will showcase the design process as a lighting designer for the Fall Musical Side Show, performed in E. Turner Stump Theatre. Side Show is based on a true story, conjoined twins Violet and Daisy Hilton seek love, acceptance, fame, and fortune on the dark road from a side show to vaudeville to Hollywood. The show confronts issues of self-love, self hatred, definitions of what is normal, what is being a freak, what is acceptance, how can you love yourself, how can you love somebody else who is different, and all of these went through their personal lives. I wanted to create the mood to invite the audience to the space and immerse them to the theatrical world. So they are not only enjoying the well written music and story, but also think about the issues that the show confronts, to feel what the character feel, to judge what is right, and what is wrong. In the presentation, there will be some documentations of analysis and paperwork for the design process. I will also introduce my research about the show, including visual research and conceptual research, then show how I translate the research and inspiration to the design of the production.

Leistner, Kevin

Theater, Poster Location

The costume design of a world-premiere dance piece entitled "Novelles Rencontres" is presented. The complete design process is shown, including concept development; detailed research; collaboration with the choreographer; initial, intermediate, and final colorized renderings; costume construction; and final realization on stage. The piece was choreographed by Tanya Mucci as part of the Kent Dance Ensemble (KDE) Spring 2016 performance entitled "Skin and Bones."

Libert, Dana et al.

Architecture, Poster Location

Crime plays a major role in the rise and fall of a city. Data shows that cities with struggling economies, in many cases, also have particularly high crime rates. One factor which may reduce crime is the lighting of outdoor spaces. This is because perception of safety for residents as well as perception of freedom for would-be criminals is affected in some part by lighting levels. I intend to conduct surveys and interviews of people who have experienced potential risk factors in Kent, Ohio on the University Campus. I will compare the results of the qualitative study with statistical crime data and measured lighting levels. Substantial evidence of safety perception in well-lit spaces having an effect on crime rates can suggest a path for creating safer cities. If the case for a connection to crime rates and economic stability can be proven, then better lighting in cities may be a path to more economic stability. The outcome of the research can serve as the groundwork for a road map to positive change in the city environment.

Lins, Marc et al.

Architecture, Poster Location

This study investigates the nature of perspectival images and their effect on the perception of an object. Several studies have established an increase in understanding through 3D illustrations, isometrics and perspectives, as opposed to written or 2D illustrations, plans and sections. During the marketing development of a project, architectural firms develop renderings without the influence of client and environmental factors, which create a misconception of the amount of development the project has undergone. In doing so, clients who are not familiar with construction practices do not understand the project phasing and the amount of work required to finish the project. The research looks at how firms use different illustration and rendering techniques to market to individual of higher or lower affinity to the construction process. The case studies look into illustration and rendering devices employed for architectural competitions and requests for proposal. The former caters towards architectural audiences and the later provides insight into normative business practices. A survey will study renderings and their effect on the perception of project development. The intention of these two studies is to determine the current marketing practices towards non-architecture audiences and reduce misinterpretation of the design process.

Lunevich, Tyler

Architecture, Poster Location

An urban heat island is defined as the rise in temperature of any synthetic area, resulting in a well-defined, distinct warm island. Urban heat islands need to be addressed due to the extreme, fatal conditions that may be generated by them. This paper proposes solutions to reduce the negative impacts of an urban heat island, in Phoenix, Arizona, through the use of building surface materials and urban forms morphology. This paper describes two processes; one of which is to calculate albedo for different building surface materials and orientations. Albedo is defined as the fraction of solar energy reflected from the Earth back into space. The other depicted process scrutinizes and analyzes urban morphologies to determine if certain forms or clusterings have greater impacts on the climate created. The conclusions show that when informed decisions are made in the design process, the preponderance of negative effects of an urban heat island can be mitigated.

Lynch III, Joseph et al.

Psychological Sciences, Poster Location

Women are more susceptible than males to anxiety disorders, which are commonly characterized by fear generalization; the inability to discriminate an aversive and neutral stimulus. Female rats generalize contextual fear at a faster rate compared with males; a process driven by estradiol. Related work suggests estradiol can influence structural changes within certain brain regions by increasing the amount of glutamatergic receptors, which promote learning and memory. Given this, we hypothesized that estradiol induced generalization was a result of enhanced glutamatergic signaling. Ovarectomized rats were trained in a passive avoidance paradigm and injected with estradiol or vehicle 24 hours later. Twenty-four hours post-injection, animals received infusions of an NMDA antagonist (APV), AMPA antagonist (NBQX), or vehicle. Infusions occurred in either the dorsal CA1 of the hippocampus or the anterior cingulate cortex regions that play a role in time-dependent context fear generalization. When tested, both glutamate receptor antagonists attenuated estradiol-induced generalization in the CA1 and ACC, indicating that glutamatergic signaling is essential for estradiol induced generalization. Identifying the mechanisms underlying estradiols influence on fear generalization will allow researchers to better understand the sex differences seen in anxiety disorders, and could lead to improved treatments for these disorders.

Mackey, Matt et al.

Biological Science, Poster Location

Great Lakes coastal wetlands are important habitats for fishes, as food and shelter are readily available. This study examines the structure of the fish community in Old Woman Creek wetland (OWC), which is overseen by National Oceanic and Atmospheric Association (NOAA) and the Ohio Department of Natural Resources (ODNR). Here, we use multivariate techniques to analyze the community structure of fishes. Additionally, we assess differences in diversity in 4 microhabitats (lily and lotus, cattail, submerged aquatic vegetation, and open water) within the wetland. The multivariate analysis is not meant to test any hypothesis. However, using univariate techniques we test the hypothesis that microhabitats with more cover high in the water column (e.g. water lily) will be greater in alpha diversity. We set fyke nets in patches of different wetland plants overnight. We identified, measured, and released all fish. We found that fish species were stratified through the wetland based on life history. For example, fish that use the wetland primarily as a nursery were clustered in zones closer to Lake Erie, rather than towards the stream. This data will be part of a larger project that aims to assess the effects of global climate change on Lake Erie fish communities.

Marette, Terryn

Podiatric Medicine, Poster Location

This is a case report of a 46 year old male patient who presented to the Cleveland Foot and Ankle Clinic with a chronic venous ulceration that had been present for approximately 10-12 years. This ulceration was also subsequently diagnosed with acroangiodermatitis, a rare occurrence yet is usually secondary to end stage chronic venous insufficiency when present. This angioproliferative skin eruption is pigmented, benign, and represents reactive endothelial hyperplasia. Acroangiodermatitis has also been referred to as pseudo-Kaposis sarcoma. The wound was treated with a series of compression modalities including multilayer compression dressings and Unna boots. Dehydrated Human Amnion/ Chorion Membrane allograft was used in conjunction with compression to heal the ulcer. The ulcer was successfully healed following this succession of treatment. The patient was lost to follow up on his final appointment, but returned approximately one year later and had remained healed at that time.

Martinez, Andy

Anthropology, Poster Location

In 1958, the Kingston Trio recorded - and attempted to copyright - a ballad called Tom Dooley. This song, a romanticized story of love and murder, sold in excess of three million copies and marked the start of the folk boom of the 1960s and 70s. But where did this song come from? While many people may be familiar with its popularized variants, the ballad traces its origins to a real murder and those most closely connected to it. I will seek to give an overview of the progression of this ballad, beginning with its origins in a North Carolina courtroom and following it all the way to the more recent folk revival of the last two decades, and the part it has played in the musical heritage of the region and the publication of folk music.

matar, mona

Math, Poster Location

Many applications require the study of large-scale networks. We often need to identify the most important edges of a directed network or to determine those with high traffic. We represent the graph of the network by the adjacency matrix A. To deal with directed graphs, we use bipartization, i.e., the directed network is mapped onto a bipartite undirected network with twice as many nodes in order to obtain a network with a symmetric adjacency matrix. We then derive the corresponding incidence and edge-edge matrices. The latter is used in various computation techniques in order to determine the most important edges in the network. These and related quantities can be determined by evaluating expressions of the form u' f(E)w, where E is the edge-edge matrix that represents the graph of the network, f is a nonlinear function, such as the exponential function, and u and w are vectors, for instance, axis vectors. Examples are given to discuss the results.

Matheny, Kyle

Architecture, Poster Location

Cleveland is full of industries and produce many of the goods and materials that we use in our everyday lives. It is a striving city as far as industries; some of the main areas of focus being automotive, steel and metal, oil and gas, etc. This means large factories and ample amounts of pollution. In 2013, direct industrial greenhouse gas emissions accounted for approximately 21% of total U.S. greenhouse gas emissions, making it the third largest contributor to greenhouse gas emissions, after the Electricity and Transportation sectors (3.epa.gov). Every day we deal with direct and indirect emissions but in this paper, I will be focusing mainly on the direct emissions. Driving

down to and through Cleveland, you can see all the factories and see all the smog being produced which is leading to a very high carbon footprint count. This paper will talk specifically about ways that other cities are cutting down on their industrial emissions and analyze how Cleveland can begin to reduce the carbon footprint produced from the factories and industries. There has already been an extension in the time limit the city has to reach the 2030 Challenge goal which shows that it really is time to start changing our ways.

McCully, Scout

Psychological Sciences, Poster Location

The executive function (EF) of task-switching may promote flexible self-regulation via means-shifting, or changing methods of goal pursuit. In physical activity (PA), means-shifting allows goal progress when barriers impede initial plans. Little is known about the relationships between task-switching, spontaneous means-shifting, and coping planning for anticipated barriers. 152 young adults completed baseline measures and logged daily PA for 2 weeks. On days an activity was planned but not performed, a means-shift was coded if another activity was substituted (e.g., yoga if rain prevented soccer). A generalized estimating equation analysis, controlling for baseline PA, intention, and time, indicated that task-switching (OR = 1.34, $p < .01$), but not coping planning ($p = .75$), predicted likelihood of means-shifting. Results suggest that means-shifting in young adults PA is associated with the EF of task-switching and may reflect spontaneous flexibility rather than planning for barriers

McDaniel, Randi

Lifespan Development & Educational Science, Poster Location

The field of Early Intervention emphasizes the importance of providing services to families in their Natural Environment during daily routines. This study evaluates the effectiveness of Prelinguistic Milieu Teaching (PMT) with a 24-month-old child with communication delays. The research method is a single subject design with (AB) baseline and intervention. Synthesis of pre-existing research of Milieu Teaching and prelinguistic intervention strategies for children with disabilities was completed. The focus of this study is to expand the child's communication and to increase the parent's intentional reaction (dependent variables). The intervention phase of this research study is to promote and implement Prelinguistic Milieu Teaching strategies (independent variables). A coaching

model is used to help support the parents to implement the strategies in their child's Natural Environment. Preliminary results suggest according to past research that the study will show an increase in child communication and a change in the parent's intentional behavior. The implications are that following the child's lead and promoting a need to communicate with environmental arrangement will create opportunities for the child to express their needs/wants and enable positive language development.

McKinney, Robert

Lifespan Development & Educational Science, Poster Location

Research within religious studies may be prolific due to the fact that more than half of Americans, approximately 54%, reported that religion was very important in their lives (Pew Research Center, 2015b). Yet, individuals who identify as LGBTQ may discover that their sexual identity may not be accepted by some religious groups. Although many researchers have focused on religious topics of interest and other on various aspects of LGBTQ studies, there is a paucity of research which seeks to examine both of these research areas through the same study simultaneously. The purpose of this proposal is to understand the religious experiences of gay male individuals who identify with Christianity through the question, What do the stories of experiences with religion told by gay male individuals reveal about their experience with Christianity? The methodological approach to this study will be through a narrative analysis, which seeks to look at the way individuals story their lives and thus make meaning of their experiences. From this poster, individuals will gain a conceptual understanding of gay males and their lived experiences with Christianity. Implications for this research area for educators and professional counselors will be discussed.

Mehta, Mansi et al.

Psychological Sciences, Poster Location

Inclusion of Premenstrual Dysphoric Disorder (PMDD) as a diagnostic category in the DSM-5 is controversial. The aim of the current study was to examine mood fluctuations in women with PMDD without informing them of the purpose of the study until after daily ratings were collected. We predicted that women with PMDD would show greater affective problems during the luteal (premenstrual) phase of their cycle. 80 female undergraduates completed questionnaires about affect, stress, and physical symptoms for 28 days. Afterwards, they were assessed for PMDD.

Women with PMDD reported a greater level of general distress, lower positive affect, and greater anxiety than women without PMDD. However, there was no significant interaction between PMDD status and cycle phase in predicting affective problems. Women with PMDD did not show more affective problems during the luteal phase of their cycle but reported higher overall distress in all phases of the menstrual cycle. Our findings demonstrated that women diagnosed with PMDD report greater difficulties with their mood, but that these difficulties are not associated with their menstrual cycle. It appears women with PMDD struggle with mood and affective problems in general, which would not provide evidence to support PMDD as a distinct disorder.

Meyers, Tim

Foundations, Leadership, & Administration, Poster Location

Passing the National Council Licensure Examination (NCLEX) is required for a graduate of an accredited nursing program to practice nursing. The current study investigated student success on the NCLEX-RN, which is the examination used to grant licensure to Registered Nurses (RNs) after graduation from an accredited institution such as a school or a college of nursing. Universities, colleges, faculty, students, parents, healthcare employers, the National Council of States Boards of Nursing (NCSBN), and society in general have a vested interest in the success of nursing students on the NCLEX-RN. It is imperative that nurses are properly prepared and competent in providing safe and reliable healthcare services. Failure to pass the NCLEX-RN prevents practice as an RN, resulting in potential financial hardship, professional embarrassment, and a continued shortage of qualified RNs. Existing data from nursing students (N = 1,176) at a large, Midwestern university were analyzed. The main purpose of this study was to examine the relationship between Socioeconomic Status (SES), the ACT, and the NCLEX-RN. Through moderation and mediation logistic regression models, the above relationships were investigated. Additionally, Conditional Process Analysis was used to gain a more in-depth understanding of the complexity of the relationship between SES, ACT, and the NCLEX-RN. Proxies of SES were explored, which included: (1) Pell Grant Eligibility, (2) Student Race, (3) College Generation, and (4) Zip Code.

Middendorf, Tyler

Architecture, Poster Location

A city is a highly complex body with a vast multitude of simultaneous processes occurring. Urban planners traditionally aim to reduce this complexity to a small group of functions set to occur in predetermined locations, with the intention of increasing land value. This results in growth-projection zoning plans that do not respond well to new conditions and do not match equity to all city users. This project seeks to reverse this method of thinking, throwing out the old method of urban reduction in favor of adaptive, resilient complexity. Leveraging digital technologies, city users can allow their subjective movement networks to be manipulated based on what is important to them. User movements and values are tracked, and through this movement, areas of underuse, overuse, and misuse can be identified. New zoning can be developed based on attributes of proximate users. Based on the disposable income moving through different areas, time-based zoning restricts how quickly development can happen to prevent land value from increasing beyond the means of the users of that area. Instead of focusing exclusively on built forms, this zoning can suggest event usage, with architecture being just one example.

Miller, Brandi

Architecture, Poster Location

The movement of resilient cities has the ability to impact small towns such as Marietta Ohio. To become resilient resources, the physical, social, and economic values of a city must transform. The travel has derived pollution, destruction and waste that have corrupted the waterway into an unusable space. The small town of Marietta Ohio, has many spaces and opportunities for pedestrian infrastructure that are not being energized or generated. This location is poorly used on few annual occasions that do not allow the space to promote further events. The historical buildings located adjacent to the waterway, also provide a unique advantage that is also not being utilized to full extent. Analysis of current conditions, coupled with case studies and expansion plans will approach the problem from all angles. The case studies will contrast past small towns that have implemented pedestrian infrastructure with success. This promotes results of new pedestrian infrastructure that utilizes the waterway and existing short pathway, into an energized alternative form of travel for the community. The implications create a community that becomes engaged with the environment, reduces carbon emission and promotes a healthy lifestyle.

Miller, Brandi

Architecture, Poster Location

The information that technology is providing the user on a daily basis, is constantly allowing the ever-changing growth of knowledge to benefit the sustainability of architecture. One aspect of sustainably is sun shading and daylighting. The discussion of how to implement this knowledge that software like Arduino can provide, into architecture shading devices can address daylighting/ shading issues along with the creation of an attached panel system. Arduino can be programed to use sensors such as force, motion, servo, and temperature. These types of sensors can be implemented into a shading device that can be not only user controlled but sensor controlled. The use of a force sensor, servo, and a designed panel system allows for opportunities for a sun shade along a building fade to be controlled based upon an applied force that will in return rotate the shade. This can further be calibrated based upon the ratio of force applied to the level of rotation created by the servo. Implications such as force and servo, allow for a custom mechanical system that becomes completely changeable based upon the users preferences at a given time.

Mirheydari, Mona et al.

Physics, Poster Location

The dynamics and formation of lipid droplets has drawn increasing attention. Lipid droplets not only store but control energy sources. They also play roles in building up new membranes, synthesizing steroid hormones and are involved in lipid signaling. The interaction of proteins binding to lipid droplets can be studied in a model system by first forming a lipid monolayer around an oil droplet. Protein binding to the monolayer is studied by the decrease in the oil/water surface tension. Previous groups concentrated on the lipid POPC, one of the major lipids found on lipid droplets, and attempted to tease out the role of amphipathic protein domains by using different protein constructs representing single amphipathic helices. Many of these proteins also contain a distinct domain in which the amphipathic helices can arrange in a bundle which is soluble in solution. Perilipins 2, 3, and 5, apoE and apoLp-III all have these bundles, and are all found on neutral lipid particles. In this work we investigate binding of the model amphipathic ±-helix bundle protein, apoLp-III from Locusta migratoria, onto different phospholipid monolayers at the aqueous solution-oil interface to shed light on lipid binding of this important protein domain. The effects of lipid composition was studied, using a series of carefully-chosen lipids and a home-built droplet tensiometer.

Moini Chaghervand, Shabnam

English, Poster Location

The purpose of this study is to show how the use of culturally related picture books can become more effective than that of the texts containing background knowledge in reading comprehension process. Related studies have revealed that both familiar topics and culturally related texts can act as a facilitator in reading classes, but there is a lack of research into the importance of each type of material and the roles they play in students reading comprehension. Pritchard (1990) studied the role of culturally related texts on the reading strategies and comprehension. His findings indicate the cultural schemata impacts on both. Adams, Bell, and Perfetti (1995) stated, "reading skills and domain knowledge can influence both reading comprehension and reading speed. This research has been designed to show the greater impact of cultural familiarity compared to background knowledge. To this end, 13 adult ESL learners were selected from level low-intermediate English class to take part in this research. They were exposed to both kinds of text and were asked to write a summary and complete a multiple-choice quiz after each text in order for their performance to be evaluated. The results show that participants outperformed when given the culturally related text and that could be the effects of motivation and imagination.

Motter, Tracey et al.

Nursing, Poster Location

Healthcare delivery in the United State is increasing in complexity, but at the same time there is a demand for high quality efficient care. New-to-practice nurses report that the acute care environment is chaotic and uncertain and nursing administrators are questioning if new RNs are capable of delivering safe, quality care. It is critical that solutions to prepare new RNs are found that are both scalable and affordable. The goal of this pilot project was to determine if adding a Nursing Internship (NI) to the final Capstone course in an RN to BSN program improves new-to-practice nurses' ability to provide care based upon the Ohio Nurse Competency Model which includes the QSEN competencies leadership and professionalism and systems-based practice. RNs who completed the NI scored higher than those that did not complete the NI on each of the QSEN competencies suggesting that the NI is an effective strategy to improve new RN practice. Future studies with a larger sample size are needed to establish significance.

Munger, Emily et al.

Anthropology, Poster Location

Common marmosets (Callithrix jacchus) have been suggested as a new model for analysis of age-related changes and neurodegenerative diseases. Common marmosets display an increased deposition of β

-amyloid with age, one of the pathological markers associated with Alzheimer's disease in humans. However, the effects of age on learning and memory processes are not well defined within this species. We employed object discrimination and reversal learning tasks to evaluate learning and memory in three aged common marmosets. The total number of errors committed before reaching the criterion per task was compared between this aged cohort and a younger cohort, who had previously completed the same set of cognitive tasks using a mixed-model ANOVA. Post hoc tests revealed that aged marmosets commit significantly more errors during the first and third object discrimination as well as the first reversal task. However, the performance of the older cohort did not differ in the second and fourth object discrimination and the second reversal learning. This demonstrates that aged marmosets take longer to initially learn task rules but once the rules are learned, they are capable of completing the task at the same level as the younger marmosets.

Newport, Ian et al.

Podiatric Medicine, Poster Location

Introduction/purpose: The flexor hallucis longus (FHL) tendon transfer is a proven technique for adding both structure and function to the degenerative achilles tendon with many reports in the literature. Our report describes a modification of this procedure. Methods: The surgical treatment of a patient with chronic mid-substance achilles tendinopathy is described here. The patient was a 58-year-old female with a 1-year history of achilles tendon pain and nodular thickening. Following failure of conservative treatment, magnetic resonance imaging revealed central mucoid degeneration of the achilles tendon. Our technique utilized a central posterior tendon splitting approach to allow for internal achilles tendon debridement. The central defect was then filled with FHL muscle belly prior to final implantation of the FHL tendon into the posterior calcaneus.Results: Once adequate healing and rehabilitation occurred, the patient resumed her preoperative activities with a significant improvement in pain and function.Conclusion: A modified approach to the FHL tendon transfer which includes replacement of central mucoid degeneration in the achilles tendon with well-vascularized muscle as well as attachment of the FHL tendon to the calcaneal tuber may offer consistently good results.

Nolan, Rachael et al.

Public Health, Poster Location

Purpose: Hand hygiene (HH) is one of the most effective methods for reducing healthcare acquired infections (HAI), yet compliance rates among healthcare workers (HCW) remain low. Previous qualitative research explores barriers and facilitators of HH, yet lacks a comprehensive meta study to synthesize findings. The purpose of this project was to produce a meta summary of qualitative research on HH among HCW. Methods: A systematic review of published qualitative literature on HH using databases: CINAHL; EMBASE; HealthSource/Nursing Academic; Medline; PubMed; PsychINFO; and Sage. Research was considered qualitative if methodology was consistent with descriptive, phenomenological, or other interpretive approach. Relevant search terms included: hand AND hygiene (OR disinfection OR rub OR soap OR gel OR wash OR sanitize), along with hospital (OR healthcare OR clinic). Methodological terms (qualitative OR focus group OR interview OR mixed method) were also applied. Results: Search resulted in 588 articles. Articles were restricted to those available in English; published after January 1, 2000; took place in a healthcare setting; and included HCW as participants. This resulted in a final sample of 26. Conclusion: Few researchers have tried variations in qualitative methodology or data collection methods. Use of additional approaches might increase depth and relevance of findings.

Nylocks, Maria et al.

Psychological Sciences, Poster Location

Dopamine levels in prefrontal cortex, and the enzyme Catechol-O-methyltransferase (COMT), influences executive resources (e.g. set-shifting). A variation in the COMT gene (Val158Met) accounts for much variation in human COMT activity, and Val carriers show deficits in dopamine activity and poor set-shifting abilities on the Wisconsin Card Sorting Task (WCST). Set-shifting is also relevant to emotion and broad emotion regulatory resources (e.g. HF-HRV). We explored the role of COMT Val158Met on emotion responsiveness. Participants completed the WCST task and a paradigm to elicit rejection and related emotions (Cyberball). We measured emotion responses in real-time, specifically capturing HF-HRV. Saliva was collected using Oragene-DNA Self-Collection Kits. Genotyping was conducted using standard PCR and restriction fragment length polymorphism (RFLP) analysis. In this sample N=120, we found a between-subjects effect of genotype $F(1,120) = 4.36$, $p < .05$, such that Val-Val individuals made more perseverative errors on the WCST. A

between-subjects effect for genotype emerged $F(1,104) = 4.31$, $p<.05$, such that Met carriers had higher HF-HRV during Cyberball. These data suggest that carriers of the Met allele at the COMT Val158Met polymorphism have greater executive and emotion regulatory resources. These findings confirm previous research Val158Met, and add novel information regarding its link to emotion.

Odhiambo, Lorriane

Public Health, Poster Location

Asthma and chronic obstructive pulmonary disease-COPD incidence continue to rise in the United States where minorities, specifically African Americans-AAs experience greater burden in terms of severity resulting in poorer quality of life. AAs are mostly underdiagnosed for both conditions, resulting in late intervention that lead to poorer health outcomes. The purpose of this research is to describe the prevalence of asthma, COPD and smoking in an urban AA Church population and to recruit participants for a subsequent intervention study using proper diagnostic procedures. A two-step case-finding technique is used to diagnose asthma and COPD. A cross-sectional survey was administered at four AA Churches, to be followed by Spirometry testing. Probable cases were identified by scoring disease specific surveys that made up the cross-sectional survey. The survey had a total 239 respondents across the four Churches, 31% of which found to be at risk for COPD, 15% and 22% to be probable cases for asthma and COPD respectively. Probable cases for both lung diseases and individuals at-risk for COPD (current and former smokers) will be encouraged to get spirometry testing. Spirometry testing will be provided at a Church event where additional biometric screenings will be offered to engage the community.

O'Neill, Regan

Architecture, Poster Location

Homes have long been a topic of research. These topics include: what makes a house a home, self-identity in the home, sizes of home, etc. Throughout time, American homes have become larger as a sign of social status, with larger homes reflecting a high social status. Recently, however, there has been a change in what the ideal home is. Home owners are downsizing not only to eliminate a high mortgage payment, but to also get rid of unnecessary space. This is highly in part due to the real estate crash of 2008 and the economic downturn that followed. The introduction of tiny homes allowed for home owners to have a lower mortgage payment as well as space to live in. However, do

these tiny homes fulfill the six characteristics a home must provide? Are they technically legal considering they break some code requirements for a home? Or are they a temporary solution and/or 21st century fad? This research study will look at the origin of tiny housing and tiny housing in comparison to previously conducted research on the home. It will look at time and place, as well as the occupant as tiny homes may be appropriate at some times.

Paige, Forrest

Architecture, Poster Location

Parkour is an urban sport, a discipline of movement and self-improvement that utilizes natural body movements, such as running, jumping, and climbing, allowing the parkour runner to overcome obstacles in the urban environment efficiently and creatively. This study investigates parkour runners and their hyper-normative appropriation of urban spaces in order to define the essence of their collective lived experience. The purpose of this study is to understand the contemporary perspective through which parkour runners view and experience the urban environment. Employing a phenomenological methodology which builds on the theoretical writings of Lefebvre, Hegel, and Nietzsche, this investigation addresses the main research question: What is the essence and meaning of the lived experience of parkour runners when they hyper-normatively appropriate urban space? Utilizing several data collection methods including interviews with parkour runners, surveys, first and third person video investigation, urban mapping, and graphic analysis, information will be compiled from cities across the United States in order to define the essence of their lived experience. The importance of this study is to investigate and reveal a contemporary perspective on urban space, which could fundamentally redefine how urban spaces are designed, utilized, and understood.

Persons, Christopher

Architecture, Poster Location

The project explores sensors, actuators, and arduino systems as responders in the urban environment, specifically as they relate to user experience and interfacing. It draws its inspiration from experiences in the narrow streets of Italy. During a rainstorm, pedestrians walk as close as possible to buildings along adjacent paths hoping to avoid getting wet. Umbrellas are awkwardly held to allow other pedestrians walking in the opposite direction to be unhindered. This project investigates

various systems that can remedy situations like this and others where responsive surfaces can improve the daily life of the urban user.

Persons, Christopher et al.

Architecture, Poster Location

As physical systems become consistently more linked with digital networks, the global and local relationships of a connected society become focused on ubiquitous digital interfacing. The instantaneous access and connectivity digital users assume within digital space has become an expectation for their engagement with physical space. Research in 2014 on whether boundaries in public spaces affect relationships between people and how the answer will provide insight into the design process has informed this research. The focus was on physical access to users, specifi cally physical barriers to their connectivity. The research shows a gap in current research; that is, the gap between what is understood about physical interfaces and digital ones. This research examines whether the claim of demanded or assumed digital interfacing through wireless internet and untethered workspaces has changed how users engage with space, and what they demand from it (Townsend, Smart Cities). It will seek to identify, qualify, and then deploy their priorities of space through future design practice. Particularly in public libraries, where the affects of such a disruption are hypothesized to be most obvious, observations and interviews will be conducted to qualitatively determine user behavior-space relationships. Observations will analyze space type, interviews will be used to identify technology demands of users, and both will identify the intent for which the user is in the space. The spaces themselves will be grouped into different categories that occur in multiple libraries, and documented at different times of the day. The initial assumption is that the digital interfacing demands of users of emerging digital technologies within public libraries will fundamentally shift how designers incorporate those demands into space planning, and that the affects of those technologies will alter the spatial architecture itself to better accommodate both.

Peterson, Emma

Fashion, Poster Location

The purpose of this study is to identify apparel workplace conditions in factories all over the world that present themselves along with harmful factory incidents from 1910 until 2015. Doing this will highlight common dangerous working conditions with the objective of ridding these conditions in

current factories to preemptively ensure the safety of workers. The data will be collected through a qualitative content analysis using New York Times articles and will be documented in a timeline. Results will find a heightened number of incidents in developing countries going through the industrialization process, and will show a change over time, moving from countries that developed earlier on to areas that are more recently going through industrialization. The results of this study will help the fashion industry identify conditions in which to clean up or avoid to prevent harm, as well as further academic studies on ethics in the workplace.

Petrofski, Stephanie et al.

Podiatric Medicine, Poster Location

Onychomycosis, a fungal infection of the nails, is the most common nail disease in adults affecting nearly 10% of the U.S. population. Accurate diagnosis of onychomycosis involves both physical assessment and histologic evaluation of the nails. Currently, direct microscopy using Periodic Acid-Schiff Staining (PAS) is the method most commonly used in the histologic detection of onychomycosis. However, it is believed that patients with onychomycosis are not always correctly identified using this method, and therefore, are not properly treated. The purpose of this study is to compare the sensitivity of routine PAS to multiplex pyrosequencing polymerase chain reaction (PCR), a newer and possibly more accurate method for the detection of onychomycosis. Subjects with moderate to severe onychomycosis on the hallux nail, as identified visually using a calculated Onychomycosis Severity Index (OSI) score, will be enrolled into the study. A sample of each subject's nail will be collected and divided into two halves. The specimens will then be sent to pathology labs to be analyzed via PAS and multiplex pyrosequencing PCR. Based on the results obtained, it is hoped to establish a better understanding as to which method is more accurate in the detection of onychomycosis.

Pfeffenberger, Taylor et al.

Architecture, Poster Location

In the field of design, it is reasonably accepted that adaptive re-use is good for the environment for many reasons, including pollution. The extent to which pollution is reduced by adaptive re-use is vague. Through literature review, and application of that knowledge to an existing commercial building in Cleveland, we will determine how much pollution of particle matter could be avoided

through an adaptive re-use design, in comparison to the same situation being demolished and replaced with new construction. Pollution in the outdoor air is greater after a building has been demolished and a new building has been built. Re-using an existing building will reduce air pollution, and reduce damage to the environment. Designers, developers, and environmentalists should consider this increase in pollution when deciding whether to adaptively re-use an existing building or to demolish and construct new.

Popple, John

Architecture, Poster Location

Graphic design and branding affect the way that people think about everything. The purpose of this study is to investigate how architects and architectural design firms present themselves through branding. Today it is critical for firms to utilize websites, social media, and blogs to brand themselves and the service that they are providing. Most architecture firms are behind the times when it comes to technology, and they do not understand the advantages of these online branding outlets. This research will interview firms of varying levels to submit their branding strategies which will be then be combined and categorized to create a diverse database of branding data. This information will then help firms looking to begin branding or re-branding themselves for a younger generation and to help better sell themselves to up and coming talent.

prtenjak, Adam

Architecture, Poster Location

The purpose is to research to effects of sound and color in combination on humans in designed space. The focus will pertain to the movement through space (thresholding) of entry. The initial approach to research would be to understand the human subconscious. The reason for this starting point is to understand what aesthetically appeals to people. Aesthetics is likely a common ground for developing better habitually altering space. Color will be the dominant focus for this type of research. Research into sound an how sound effects human interaction. Could in certain situations sound be good or bad? Can less sound actually be less desired than more sound in specific ways? Continuing in research approaches past the subconscious is to understand experiential factors. The aesthetics as mentioned before is a likely starting area to begin how to create a better quality space. Also creating space that begins to effect users of the space through movement. Thresholding acts as nodes of

movement between spaces that can become areas of change. These nodes can open the door to the discussion of liminal space in architecture, described as a space between spaces

Punturi, Benjamin et al.

Architecture, Poster Location

Mumbai, Maharashtra is the largest city in India, with an urban population of 21.5 million people. Of that mass, 33% live in urban slums. The current method of construction is an additive method, each shelter builds off of previous ones, creating density both horizontally and vertically. Understanding the construction methods and the materials used can begin to formulate a way to improve the quality of life for these residents. In labeling the urban slum as a disaster relief scenario, a study of deploy-able housing can be used to associate with improving the built environment of the urban slum. Transitional housing is a temporary disaster relief typology that speeds reconstruction by using materials that can be re-purposed for construction of a permanent building. Vernacular materials are combined with contemporary techniques to construct a customized, de-mountable housing unit. The individual units can be taken apart and installed at different sections while integrating into the existing framework of the slum construction. This maintains the successful density of the slums while also integrating into existing infrastructure for potential access to sanitation methods and clean water.

Rahman, Mohammad et al.

Chemistry & Biochemistry, Poster Location

The chemistry of nitroxyl (HNO), a one electron reduced and protonated form of nitric oxide (NO), in biological systems is of great interest due to implication of physiological importance. However, the rapid dimerization of HNO complicates the study of its chemistry. Therefore, research focused towards the development of controlled and fast release of HNO from donor compounds is necessary. To date, few photoactivatable HNO-releasing compounds have been synthesized, and they do not release HNO sufficiently rapidly to effectively study HNO chemistry. In an effort to address this issue, we aim to synthesize new photoactivatable compounds that will rapidly generate HNO. In this study, novel photoactivatable 2-nitrobenzyl and 2-(2-nitrophenyl)ethyl-caged compounds have been synthesized as potential HNO donors. Photolysis of these compounds under biologically relevant conditions with a view toward HNO release are currently under investigation.

Ramcharran, Karuna

Public Health, Poster Location

Infectious disease outbreaks are of increasing concern in todayâ€™s global community. With increased travel, population growth, and environmental changes, infectious pathogens pose a greater risk of spreading faster and affecting more people than historically seen. In order to combat the detrimental effects of infectious disease outbreaks, emergency measures have been taken on international and local levels to identify sources of infectious disease and determine how to prevent future cases. Public health departments have their own preparedness plans for county-wide outbreaks. In the wake of the 2014 Ebola cases in the United States and suspected cases in Ohio, local health departments in Ohio received a Public Health Emergency Preparedness (PHEP) grant to help update their plans to include Ebola and other special pathogens (OSP). The purpose of this research project was to learn about the components of an emergency preparedness plan, how to establish relationships with community partners, and how to protect patients and civilians from further spread of the disease. Research and plan creation was conducted at the Portage County Health Department in its emergency preparedness division. Heeding PHEP guidelines, the current emergency preparedness plan was updated to take precautions against the spread of pathogens considered uncommon in Northeastern Ohio.

Ratnayake, Kalpani et al.

Geology, Poster Location

A deeper understanding of Indian monsoon variability is extremely useful to predict future climatic scenarios in terms of agricultural planning and disaster management. Although Sri Lanka is a sensitive region for climatic studies, such studies to understand the mechanism of long-term and short-term climate variability are very rare. Therefore, this study was carried out using numerous proxies based on two unmixed, marine sedimentary archives from both the winter and summer monsoonal regimes of Sri Lanka. A 392-cm long gravity core was obtained from the continental shelf off Negombo (summer monsoon) by National Aquatic and Research Agency (NARA) and a 141-cm long gravity core was obtained from continental shelf of Pulmudai (winter monsoon) using a Sri Lankan Navy research vessel. The physical and chemical properties of sediments including chemical composition, color reflectance, magnetic susceptibility, δ18O and δ13C ratio of Globigerinoides ruber were analyzed at 0.1 cm intervals. Micro-scale intact mollusk shells were used to construct the age model.

Upwelling indicating benthic and planktonic foraminifera species were counted at 2-cm depth intervals. Principle component analysis of color reflectance data (PCA-DSR) and chemical compositional data (PCA-XRF) was performed to extract important climatic signals. At Negombo, results indicate that upwelling proxies (δ13C, foraminiferal ratio, and colour reflectance-Chlorophyll) and ocean salinity (δ18O), which indicates evaporation-precipitation (E-P), have increased during 10000-8500 cal yrs BP, 4000-1750 cal yrs BP and finally from 500 cal yrs BP to present. Increasing upwelling and E-P represent strengthening of the summer monsoon in during three periods. Although foraminifera analysis indicates strengthening of monsoon activities in these three climatic periods, terrestrial iron oxides content decreased while salinity increased representing less precipitation, more evaporation and increase in wind strength during the three periods of intensive summer monsoon activity. Climatic signals extracted from Pulmuddai marine sediments indicate strengthening of winter monsoon from 5500-4400 cal yrs BP and , from 1000 cal yrs to present years represent increasing terrestrial materials (Magnetic mineral percentage, DSR PC-1 iron oxide, marine productivity and DSR PC-3, kaolinite clay content and Rb/Sr) and decreasing ocean salinity (E-P). Climatic signals from the two monsoonal regimes indicate that the summer monsoon is out of phase with the winter monsoon during the Holocene period. Wavelet analysis indicates that El-Ni±o Southern Oscillation (ENSO), Pacific Decadal Oscillation (PDO), solar cycles and Sun spot cycles are the dominant driving forces controlling the south Asian monsoon with periodicities at: ~64, ~128 and ~256 years per cycle.

Reese, Cassandra

Visual Communication Design, Poster Location

The movement toward a mindful form of design aspires to increase awareness by shifting one's attention to what is happening both in and around them. Contrary to the auto-pilot state of mindlessness, mindfulness is an active mindset that focuses on present moment immersion. In response to the mindless nature that currently permeates society, the question becomes whether design can be used for the benefit of creating a more conscious culture. A growing body of scientific evidence recognizes the potential mindfulness has to reduce stress, manage pain and improve overall well-being. This research will investigate how mindfulness-based digital media including websites and apps facilitates mindful user experiences through the designer's choices. Mindful design creates opportunities for users to become more attentive to their present state of awareness. While some of these technologies endeavor to teach meditation or mindfulness techniques, others create portals

that allow the user to step into a more conscious state of being. For the purpose of this research, the primary focus will remain on exploring the relationship between mindfulness-based design and the subsequent awareness level of the individual.

Rice, Jennifer et al.

Library & Information Science, Poster Location

As online classes and content become more prevalent, streaming media is replacing a great deal of physical audiovisual material. This poster will discuss some of the trials and successes our institution has faced while implementing this format into our collection. One of the biggest challenges faced in this emerging field is publicizing the availability and access to faculty and staff and deciding how it best fits in their curriculum.

Robinson, Laurie

Nursing, Poster Location

Induction of labor has been a topic of interest in recent years. Guidelines for induction have been under scrutiny as labor and delivery units seek to decrease adverse outcomes like cesarean sections, postpartum hemorrhage and infections. One method of induction that has become increasingly popular over the last 10 years is the use of the Foley catheter to mechanically dilate the cervix. On my floor this method was met with much resistance from the nurses even though the physicians embraced it. Many nurses felt that the Foley catheter was not as effective as other methods and caused patients unnecessary discomfort. To see if this was true, I formulated my PICOT question and began to search for best evidence for practice. PICOT Question: In women with a Bishop score of less than six, how does the Foley catheter induction compare to Misoprostol in regards to length of labor and adverse effects? Conclusion: After searching the research, it was shown that Foley catheter induction was comparable to Misoprostol in both length of labor and adverse effects, including women's comfort level. This shows that the use of Foley catheter induction is evidence-based and has a place in practice.

Rothermel, Ethan et al.

Architecture, Poster Location

Design education in architecture is a fluid and dynamic; as an ever changing process design education can be evaluated in order to further enhance learning outcomes. The effects of individual competition have not yet been analyzed in the development of design skills. The introduction of increasing numbers of collaborative studios, the social and self competition is removed as well as the potential benefits such as, increased motivation and individuality that accompany it. In order to understand whether competition is beneficial to developing design skills, surveys of upper level students in architecture will be conducted. Students are asked to reflect on their past two semesters and development of design knowledge. The surveys are meant to measure design competency along with the competitive nature of the studios. In addition to surveys interviews will also be conducted to understand how competition affects design knowledge. The result of competition in the studio can be seen through the process as conducive to the development of design skills. Through these findings, the architecture studio and design education may be structured in a way to foster a competitive environment in order to better develop design expertise.

Roy, William et al.

Physics, Poster Location

Using single molecule fluorescence microscopy, the behavior of various guanine-quadruplex (GQ) structures will be studied when introduced to different stabilizing or destabilizing agents, including various salts and small molecules. Donor-acceptor fluorophores will be placed at the ends of structures of interest and the energy transfer between them, which depends on their separation, will be measured. Different experimental conditions should result in structural variations and produce different inter-fluorophore distances which will be tracked via the energy transfer between the fluorophores. Another component we plan to test is the stability of the GQs when they are under tension. To produce this tension, we formed a short macrocyclic duplex DNA that contains a small GQ forming single stranded segment. The elastic properties of the DNA will be used to keep the GQ under tension. We will then vary the elastic properties of the macrocycle to modulate the tension applied to the GQ.

Ruiz, Cody et al.

Anthropology, Poster Location

We tested three types of medical-grade buccal swabs against standard cotton swabs (i.e. Q-tips) for differences in DNA yield. Our results demonstrate that standard cotton swabs recover as much DNA as medical-grade swabs, but at a tremendously lower cost. Replicate tests showed that such swabs also display the greatest consistency of DNA yield, as indicated by the lowest standard deviation among the four tested swab types. These findings suggest that the use of standard cotton swabs for buccal cell collection offers not only a significant cost savings, but a more consistent method compared to the use of commonly used medical-grade swabs.

Saha, Neete

Foundations, Leadership, & Administration, Poster Location

Advising international students is different than advising domestic students since international students are not only unfamiliar with their institutional rules and regulations but also unfamiliar with their environment (Charles & Stewart, 1991). This qualitative study is an attempt to learn about undergraduate international students' academic advising experience at a mid-western US university. This study warrants attention because by understanding and learning about international students' advising experience, administrators may be able to more effectively advise and support international students, create advising guidelines, develop assessment metrics and appropriate training and workshops for professional and faculty advisors for that particular population.

Scianna, Angelica et al.

Biological Science, Poster Location

Antibiotics and other pharmaceuticals, along with fecal bacteria, can enter streams from wastewater effluent, facilitating antibiotic resistance gene (ARG) dissemination. Given the detrimental impacts of antibiotic resistance on human health, understanding processes that drive ARG occurrence in anthropogenically impacted aquatic ecosystems is of interest. In this study, we used terminal restriction length polymorphisms and quantitative polymerase chain reaction to evaluate the impact of stormwater runoff on stream bacterial communities and the distribution of tetracycline resistance (tetO and tetW) genes. Samples were collected after large floods from multiple sites along Tinkers Creek, an urbanized stream in Northeast Ohio with multiple sewage treatment plants. Additionally, physicochemical properties, including dissolved and benthic organic carbon, nitrogen species, reactive phosphorus, conductivity, pH, water temperature, redox potential, dissolved oxygen (DO),

turbidity, and discharge were measured. Our results demonstrate effects of urbanization on physiochemical and microbial characteristics. Bacterial community profiles varied significantly spatiotemporally and were driven by differences in DO, and dissolved organic carbon (P= 0.05). These results suggest that flood events in urban streams significantly alter bacterial communities and physicochemical conditions.

Shelestak, John

Biomedical Science, Poster Location

The cuprizone animal model is widely used to study toxic demyelination and subsequent remyelination in the central nervous system. Cuprizone is a copper chelator that affects the metabolism with oligodendrocytes, leading to their degeneration and the loss of myelin sheathing. Unlike most demyelinating diseases such as MS, the cuprizone model appears to maintain an intact blood-brain barrier throughout the treatment. However, the presence of peripheral immune cells may indicate that some disruption occurs in the blood-brain barrier during the treatment. Mice were treated with cuprizone for 6 weeks during which they were imaged with an MRI every two weeks. Evidence of demyelination was examined with T1, T2, and diffusion weighted protocols. The mice were sacrificed after 6 weeks of treatment and tissue sections were stained and imaged under confocal microscope. The tissue sections were stained for neurons, myelin, astrocytes, vasculature, and immune cells to assess the integrity of the blood-brain barrier. Weight loss was observed under cuprizone treatment along with demyelination and enlarged ventricle volume. This toxic demyelination can be a useful tool in modeling demyelinating disease such as Multiple Sclerosis.

Shrestha, Prakash et al.

Chemistry & Biochemistry, Poster Location

The formation of G-quadruplex (GQ) structures in the promoter and telomere regions of human genome are well known for their critical roles in transcriptional regulation.1,2 Also, the formation of RNA G-quadruplex (RQ) is known to have control over translational process.3,4 Recently, the formation of DNA/RNA hybrid G-quadruplex (HQ) during transcription, also has been discussed to have important biological functions.5,6 Since, many putative G-quadruplex forming sequences are found at the downstream of transcription start sites7, it is important to understand the interaction of GQ, RQ and HQ structures to delineate their specific roles during transcription. Here, we

investigated the interactive formation of GQs in a natural sequence (GGGGA)4, by using optical tweezers. First, mechanochemical analysis revealed that RNA transcripts helped to populate quadruplexes at the expense of duplexes. Co-transcriptional folding of GQ and HQ has been justified by their rapid folding kinetics in the presence of RNA transcript. Next, by tethering DNA template through RNA transcript, we observed the formation of both RQ and GQ. Interestingly, we found that RQs are slow to fold comparing to both GQ and HQ. This clearly highlights the hierarchical folding of GQs during transcription and suggested the critical role of nascent RNA in transcriptional regulation.

Siegel, Nicole et al.

Biomedical Science, Poster Location

The functional morphology of the primate mandible maintains considerable interest from the anthropological community. Jaw morphology has been linked to diet and feeding behavior and used to infer dietary adaptations in extinct primates. While external jaw form has received significant attention, the internal morphology of the mandible is still being systematically evaluated across primates. The structural variation of the trabeculae inside the mandibular condyle remains largely unknown across primates. We investigate strepsirrhine trabecular architecture to assess size-related variation of trabecular features across this clade as a baseline for understanding the functional significance of variation in trabecular form. We examined CT images of mandibular condyles of 99 adults from 29 strepsirrhine species ranging in size from mouse lemurs to indri. The entire condylar trabecular volume was processed in Avizo 8.0 and imported into BoneJ for estimation of trabecular morphometric parameters. Phylogenetic comparative methods were applied to address issues of phylogenetic non-independence. Larger species have larger bone volume with relatively thinner, more widely spaced, and more plate-like trabeculae. Connections between and alignment of trabeculae do not change significantly with jaw size. Future work will link these size-related trends in trabecular architecture to variation in diet and feeding behavior across Strepsirrhines.

Skimin, James et al.

Architecture, Poster Location

Resiliency is defined as the property of a material or place to absorb energy when it becomes deformed elastically, and the ability to recover the energy used in the process. The purpose of this

essay is to conduct research on a small city to test the effects of population density and urban programming against the resiliency of the city as a whole. Using the small township of Garrettsville, Ohio as a case study, I will conduct observational research and one on one interviews with residents to obtain the information needed. The expected outcome will be that population density has a huge effect on the overall resilience of any particular city. The larger the population in a city, the more likely it can obtain the blows through time and continue to survive. Research Questions: 1. How does population density directly affect the resiliency of a city? 2. Can we increase the resilience of a city through efficient urban planning?

Skrinyer, Andrew

Anthropology, Poster Location

Tropical rainforests are critical to continued human existence on Earth. Carbon sequestration, the global hydrological cycle, and medicinal plants are best provided by large tracts of intact rainforest. Unfortunately, forest loss is prevalent throughout the tropics, which house the world's most biodiverse ecosystems. I conducted an assessment of standing forest health and a primate census at the Piro Biological Station on the Osa Peninsula, Costa Rica over a 6-week period in 2014. I characterized edge effects throughout the forest in relation to land cover types that border the forest edge, compared edge-to-interior forest at the site, and related these data to the distribution of four primate species (Ateles geoffroyi, Saimiri oerstedii, Alouatta palliata, and Cebus capucinus) found there. My results and satellite imagery suggest that this area is currently undergoing a period of forest regeneration. Likewise, a primate census revealed that Ateles geoffroyi, listed as Endangered by the IUCN Red List, is abundant throughout the site, equally utilizing both edge and interior forest during the wet season. Since the nearby Corcovado National Park is known for its abundant Ateles geoffroyi population, this study reinforces the possibility of habitat corridors between Piro and Corcovado.

Smith, Brian

Psychological Sciences, Poster Location

Posttraumatic stress disorder (PTSD) develops following trauma exposure and affects 6.8% of the United States population. PTSD is a significant public health concern given that it is associated with multiple physical health comorbidities. However, our understanding of the mechanisms through

which PTSD contributes to poor physical health is limited. Research suggests that there may be multiple mechanisms that indirectly lead from PTSD to physical health problems, including psychological, biological, and behavioral pathways. Research has found that anxiety sensitivity (AS), substance use (SU), and poor overall sleep quality (SQ) are related to both PTSD and physical health. However, these factors have not been examined together to see if they each play a unique role in mediating the relationship between PTSD and physical health. The current sample consisted of 90 traumatized adults from a northeast Ohio PTSD treatment facility. A bootstrapping multiple mediation regression analysis was conducted. Results indicated that AS and SQ (but not SU) mediated the relationship between PTSD and physical health symptoms. Furthermore, the relationship between PTSD and physical health was no longer significant after the mediators were accounted for. These results support prior research indicating that multiple pathways together explain the relationship between PTSD and physical health.

Solberg, Anna

Geography, Poster Location

Tourism is an ever-growing industry throughout the world; it is particularly popular in places of cultural, historical, and natural significance. The diverse countries within sub-Saharan Africa constitute one such area. With the tourism sector within Africa substantially increasing over the last few decades, questions must be posed in order to understand the impact of the drastic contrasts and interactions between the tourists of the developed world and the local destination of the developing world. A tremendous amount of research has been done pertaining to social, economic, and global impacts of tourists within countries both developed and developing. However, there has not been an ample amount of questions posed relating to how the tourists feel that they influence the local environment of the destination. This self-awareness of the tourists could truly make or break the industry within such delicate regions of the world. The goal of this research is to find any significant perceptions of the tourists that visit such areas within Tanzania.

Stahl, Erica

Nursing, Poster Location

Uncontrolled pain can contribute to increased morbidity and mortality, decreased patient satisfaction, and increased rate of complications among critically ill patients in the ICU setting. Pain

is not being assessed regularly in a 10 bed ICU in a central Ohio community hospital and a validated pain scale is not available in the EMR. The purpose of this project was to transition to a validated behavioral pain scale, CPOT, for assessing pain in patients unable to self-report, to increase regularity of pain assessments, and increase patient satisfaction as evidenced by increased HCAHPS scores. Staff education regarding proper use and timing of the CPOT was provided to all ICU RNs via an electronic module, and knowledge was assessed prior to and after the education in test format. Chart reviews were completed before and after implementation to monitor for correct CPOT use, as well as increased regularity of assessment. Initial post data indicates CPOT is being used in correct instances, but pain is still not being assessed regularly. More focus and investigation is required to look for barriers to implementation. Improved assessment of pain, as well as regular assessment of pain, will likely lead to better pain control, and ultimately, better patient outcomes.

Stavres, Jon et al.

Health Sciences, Poster Location

Purpose: The purpose of this study was to examine predictors of mathematical performance (MATH) in normobaric hypoxia (NH) and normoxia (N). Methods: Nine participants (5 male) completed a VO2 max test in NH and in N followed by two experimental sessions in the same conditions. Peripheral oxygen saturation (SaO2), MATH, regional cerebral oxygenation (CeO2Hb), and middle cerebral artery flow velocity (MCAbv) were assessed at baseline. Data was collected again after 30 min of acclimation, during the final 5 min of a 20 min cycling protocol (60% VO2max), and at min 1, 15, 30, and 45 of recovery. Linear regression analyses were run for each condition using Vo2, SaO2, MCAbv, CeO2Hb, Gender, RPE, blood pressure, and HR to predict MATH. Results: In N, HR and Gender were the only significant predictors of MATH (B=.106, p=.022, B=-11.61, p<.001, F=5.43, p>.001; respectively). In NH, only gender was a significant predictor of MATH (B=.7.352, p<.001, F=6.703, P<.001; respectively). When combined, SaO2 (B=.150, p=.043), HR (B=.073, p=.017), and gender (B=-9.011, p<.001) were significant predictors of MATH (F=9.853, p<.001). Conclusions: Results from this study suggest that HR, SaO2, and gender are significant predictors of mathematical performance; and factors affecting mathematical performance may differ based on environment.

Sugano, Laura et al.

Geology, Poster Location

Heavy rain storms and fertilizer introduce nutrients, such as phosphorus and nitrogen to water bodies, contaminating aquatic ecosystems. Increased runoff from storm events is a concern due to flooding, erosion, and disturbance. Stormwater infrastructure, such as a bioretention cell or green roof, is designed to ameliorate these effects by decreasing the flow rate of runoff, and it can improve water quality through filtration, settling, and biogeochemical processing. In order to understand the capacity of green stormwater infrastructure to improve water quality and decrease flow, we studied a bioretention cell and a green roof at the Cleveland Metroparks Watershed Stewardship Center. Rainfall was used as the input. The bioretention cell also received runoff from the parking lot surfaces. Green roof phosphate concentrations increase an average of 697% from inflow to outflow and bioretention cell concentrations increase 327%. Green roof nitrate concentrations decrease an average of 12.6% from inflow to outflow, while bioretention cell concentrations increase 226% from inflow to outflow. Area-velocity meters were used to measure output discharge from an underdrain below the bioretention cell and from a downspout from the green roof. The bioretention cell retains water during lower intensity storm events when the green roof does not.

Tao, Qiong et al.

Fashion, Poster Location

Many renowned designers have started including Chinese element in their apparel design (Fashion Clothing, 2013). China possesses profound culture and hand-craftsmanship, which inspires designers all over the world. Although many studies have been done to analyze new techniques including Chinese element in clothing designs, there has not been any studies to discover what are the preference of ethnical inspired design customers are looking for. Therefore, the purpose of this study is to better understand the potential market for apparel with ethnical inspired design, and to identify a market segment that prefers modern apparel with Chinese elements; after doing so, the best-optimized design will be identified. This study will use Qinghua (Blue-and-White) as an example of Chinese element when conducing the research. Individualized in-depth interview, conjoint analysis, and questionnaire will be conducted to generate the data. This research would fill the gap of using co-design process to find out customer's preferences in purchasing ethnical inspired apparel. this study will also provide an innovated method to better understand the target customer, and find out the optimized design for that niche market.

Tao, Qiong et al.

Fashion, Poster Location

There is a common belief that people from the Eastern culture are more interdependent and people from the Western culture are more independent. With globalization, people from both cultures are being influenced by each other, especially for Asian Americans, who constantly interface with two cultures. As young Asian Americans are a unique market segment with great purchasing power, their decision-making styles in purchasing apparel would be critical to evaluate. Therefore, it is time to look deep into this special group's self-construals, social media behavior, and decision-making style in a contemporary social context. The purposes of this study are to investigate 1) self-construals of young Asian Americans in a contemporary context, 2) the relationship between self-construals and social media behavior of young Asian Americans in shaping their consumer decision-making styles in purchasing apparel, and 3) how different social media behavior impact young Asian Americans' decision-making styles in purchasing apparel. This study will use online questionnaires to collect the responses from Asian Americans who are born in the U.S. and 18-25 years old. Data will be collected by data agency, Qualtrics. The data will be analyzed using Descriptive statistics, Principal Component Factor Analysis with Varimax Rotation, and Pearson Correlations.

Tingler, Ryan et al.

Public Health, Poster Location

Background: Needs of lesbian, gay, bisexual, trans, and queer (LGBTQ) individuals should be routinely considered in public health efforts to eliminate health disparities, and increase their overall quality-of-life. The main objective of the study was to identify experiences of discrimination and priorities for well-being among LGBTQ's in Puerto Rico (PR).Methodology: Active recruitment was performed during the Gay Pride Parade in San Juan, PR, on June 7, 2015. Attendants were approached and oral consent was obtained from those who voluntarily agreed to complete a self-administered survey and were 21yrs or older and identified as LGBTQ. Results: Mean age of participants (N=236) was 35yrs (SD=12yrs). The three most important issues for well-being reported were: same-sex marriage (62.7%), possibility for same-sex couples to adopt (50.0%) and protection from discrimination in the workplace (42.2%). Among the 21-32 and 33-48 age groups, the most common reason for discrimination was physical appearance (36.4% and 36.6%, respectively). Intra-LGBTQ discrimination based on physical appearance resulted significant when stratified by sex ($p<0.001$) and sexual orientation ($p=0.005$). Discussion: These preliminary findings

support the needs to further research the experiences of LGBTQ individuals to inform policy development for the health promotion and protection of basic human rights of these groups.

Travers, Kimberly

Lifespan Development & Educational Science, Poster Location

The Early Intervention system, that provides services to children (0-3) with disabilities, is driven by the accomplishment of child and family outcomes. These family-directed outcomes are written and measured in the Individual Family Service Plan (IFSP). However, professionals are not always writing these outcomes in a manner that is measurable. Therefore, the IFSP Outcome Assessment Tool (IFSP-OAT) was developed to evaluate the quality of IFSP outcome statements. The purpose of this study was to examine the reliability and validity of the IFSP-OAT. After reviewing 150 IFSPs, preliminary results indicated that the majority of items had strong psychometric properties. The IFSP-OAT items could be applied reliably among university-based raters, with solid overall internal consistency. The IFSP-OAT has been revised to improve reliability and face validity based on study results and content feedback. The next step, in collaboration with the Ohio State University, will be to scale up with a larger sample to further examine the reliability, validity, and utility of IFSP-OAT within the community.

Tullis, Colleen

Lifespan Development & Educational Science, Poster Location

This study will evaluate the effectiveness of using turn taking during play to increase the frequency and duration of joint attention between the parent and their child with autism. Joint attention is the coordination of attention between two individuals, to an event or object, with shared interest, engagement, and understanding (Schertz, 2005). The four phases of joint attention development include 1) focusing on faces 2) turn taking 3)responding to joint attention and 4) initiating joint attention. Children with autism can tend to have significant deficits when it comes to joint attention with others. These deficits in joint attention can affect the development of social and communication skills in the child. Embedding turn taking intervention strategies into child led preferred activities has been shown to increase the duration and frequency of joint attention for the child and caregiver. The participants in this study are a 29 month old child who was diagnosed with autism and his mother. The setting is the family's natural environment, for this study it will be in

their home. A single subject research method (AB) with baseline and intervention conditions will be used. By coaching the parent on turn taking strategies to use during the child's naturally occurring play opportunities, an increase in the frequency and duration of the joint attention between the mother and child should occur. The implications of this study are that by increasing joint attention, children with autism can gain social and communication skills that could significantly impact all areas of their development and life.

Unluol Unal, Neslihan et al.

Lifespan Development & Educational Science, Poster Location

Treatment acceptability is a critical subject in education (Elliot, Witt, Kratochwill, & Stoiber, 2002). Kazdin (1981) defines treatment acceptability as "judgments by laypersons, clients, and others of whether treatment procedures are appropriate, fair, and reasonable for the problem or client (p. 493). In other words, treatment acceptability refers to consumer perception of usefulness, eagerness, fairness, and practicability of the intervention in a specific setting. There are a variety of reasons influencing individuals' judgments regarding the use of effective treatments. It is important to investigate these reasons to increase the implementation of these practices as well as students' success. Therefore, the purpose of this study is to provide a systematic review of treatment acceptability research regarding factors affecting treatment acceptability. Suggestions and implications will be discussed.

Vanscoter, Walter et al.

Architecture, Poster Location

Walkways on college campuses connect places to places. These walkways are comprised of paved paths, concrete sidewalks, dirt trails, open fields, and even paved roads. This paper reviews the effects of direct sunlight (solar radiation) on the behavioral aspect of selecting directional walking paths for students on Kent State University, main campus, during the cold climate season. The study aims to identify the primary motivation for path selection. The only two parameters considered are getting location to location or altering path selection to stay in sunlight. To this end, the research will document all available walkways on KSU main campus and identify the specific area of study. The investigation makes use of written and verbal surveys from the students, field observations, weather recording, and time-lapse photography. The result from accumulated research methods identified

that over eighty percent of participants displayed getting location to location as their primary motivation. The analysis of the research indicates the limitations of the scope of the study and makes suggestions for further work in this specific field of research.

Wachholz, Haley

Geography, Poster Location

According to Seattle's government emergency management, earthquakes are the most serious hazard that Seattle faces. It is not just the earthquake damage that makes these natural disasters so serious, it is also the aftermath. Earthquakes could be followed by landslides, fires, Tsunamis, and flooding. The purpose of this study is to use ArcGIS to analyze the potential destruction associated with a disaster such as an earthquake along the Seattle fault line followed by a Tsunami and flooding. The largest earthquakes experienced along this fault are deep within the Puget Sound area and can be directly followed by a tsunami. It is important to address these potential disasters so that the area can better prepare for the future if the incident were to occur.

Walter, Fawn et al.

Psychological Sciences, Poster Location

Introduction: Self-compassion is related to a number of variables, including health behaviors, stress and procrastination, psychopathology and resilience, and well-being. Positive emotions have been linked to advantageous outcomes in the workplace, such as increased pay, better supervisor evaluations, and greater social support. This study examined the influence of self-compassion on supervisor evaluations. Methods:The sample (N = 54) was aged 46.52± 10.76, 79.6% female, and 83.3% Caucasian. Participants completed the Self-Compassion Scale (SCS), which measures three constructs, including self-kindness, common humanity, and mindfulness. Supervisor evaluations (scaled from 1 to 4) from four consecutive years (2011-2014) were used as the dependent variables. Hierarchical linear regressions were performed to determine whether self-compassion explained variability in supervisor evaluations after controlling for age, sex, and education. Results: Demographic and medical variables did not explain variability in supervisor evaluations. Adding the SCS composite improved model fit, such that self-compassion accounted for significant variability in supervisor evaluations from every year (see Table 1). Discussion:To our knowledge, self-compassion has not been examined in relation to supervisor evaluations. In this sample, self-compassion

predicted the subjective work performance of employees at a university. These findings can be used to improve leadership and other employee enhancement programs.

Wang, Zheye et al.

Geography, Poster Location

Social media data are increasingly being used for enhancing situational awareness and assisting disaster management. We analyzed the wildfire-related Twitter activities in terms of their inherent dimensions i.e., space, time, content, and network to gain insights into the usefulness of social media data in revealing situational awareness. Findings are shown as follows. First, social media data can characterize the disaster across space and over time, and thus are applicable to provide knowledge associated with disaster situations. Second, people have strong geographical awareness during emergency events, and are interested in communicating disaster-related news, disaster response information, and potential impact or damage. Third, the dominated users such as local authorities and traditional media reporters account for a large amount of information transmission on social media during disasters.

Weaver, Alyx et al.

Biological Science, Poster Location

Melatonin is an antioxidant molecule that is a metabolite in the Tryptophan pathway. Traditionally the shift between the Kynurenic acid and Tryptophan pathways has been associated with inflammatory conditions, including Multiple Sclerosis (Bohar, Z. et al). Decreases in melatonin are associated with relapses in Multiple Sclerosis (J.S. Lee, D.J. Cua. 2015) There is a preponderance of evidence now suggesting that cytokine receptors influence mitochondrial metabolism in Multiple Sclerosis. Changes in the expression of transcriptional regulators have been documented in Multiple Sclerosis; SIRT1 reduction has been associated with increases in FASL protein in lesioned areas (Tegla, CA. et al 2014). TNF-α receptor signaling can be blocked with melatonin treatment in luecocytes via caspase inhibition (Espino J1, RodrÃ-guez AB, Pariente JA. 2013). We speculate that the TNF-α death complex activates neutral sphingomyelinase activity and increases metabolism of sphingomyelin in oligodendrocytes (Jana A & Pahan K. 2010). We co-treated primary oligodendrocytes with 75nM TNF-α and Melatonin (10nm-10um) for 48 hours, and looked at

changes in TNF-α signaling and myelin. Our results suggest that melatonin can inhibit caspase cascades in oligodendrocytes and improve cellular metabolism.

Werner, Angelia

Anthropology, Poster Location

Over 13,000 years ago, nomadic groups of hunter-gatherers crossed over the Bering Strait from Asia into North America. These First Americans, known as Paleoindians, spread throughout the continent, successfully colonizing newly deglaciated, unfamiliar, and highly dangerous Ice-Age landscapes. What's more, Paleoindians traveled at breakneck speed, colonizing the entire continental U.S.A., southern Canada, and north Mexico in under 1,000 years. How did they do it? One aspect of Paleoindian behavior and culture archaeologists agree contributed to their colonization success was their incredible technology. Among a variety of sophisticated implements crafted from stone and bone was arguably the pinnacle achievement of 3.3 million years of Stone Age craftsmanship: the Clovis projectile point. Named after the dusty town in eastern New Mexico where it was first discovered in 1935, the Clovis projectile point was made of high quality crypto-crystalline rock, such as flint, chert, obsidian, jasper, or chalcedony. Clovis points varied in size and shape, but possessed razor sharp edges capable of taking down the largest Ice Age beasts, including mammoths. In this presentation I synthesize the research to date on North Americas first invention.

Wiley, Linda

Lifespan Development & Educational Science, Poster Location

The purpose of this study was to examine the effects of parent-implemented enhanced milieu teaching (EMT) on the communication skills of a 21 month old toddler with expressive language delays. In this study, I supplemented parent-coaching strategies with a Content Acquisition Podcast (CAP) on EMT. CAPs are brief, computer-based multimedia presentations that have been used to help teachers learn effective teaching practices. I measured the effect of parent-implemented EMT on expressive communication skills (gestures, signs, word approximations, spoken words) using an A-B single subject study design. I also measured parent use of EMT strategies before and after intervention. I assessed parent satisfaction with the CAP and the overall intervention using a brief survey. Parent-coaching supplemented with CAPs may be helpful for increasing parents'

understanding and use of evidence-based naturalistic language teaching procedures (EMT) in everyday activities.

Willke, Phil

Library & Information Science, Poster Location

Psychological Capital (PsyCap) is a high-level concept combining empirical data from four facets: hope (will to succeed), resilience (response to negative setbacks), optimism (positive expectations), and self-efficacy (self-confidence in performance). The sum of the four constructs has a significant positive relationship to job performance and satisfaction. The focus of the PsyCap research is on individuals' positive, internal state-like properties instead of negative, detracting traits. Another closely associated concept is Authentic Leadership, which draws upon positive psychological atmospheres, ethical climates, and honesty, which can foster better self-awareness, balanced moral perspective, promote positive self-development, and increase the PsyCap of the leader's followers. While the study of PsyCap, Authentic Leadership, and the relation between the two is new and evolving, both could be an important resource for organizations and employees to cope with negative events and conditions in the workplace, thereby minimizing the symptoms of stress.

Wilson, Kevin Alexander

Music, Poster Location

Music theory of the West relied heavily on the Greek music theory for much of its early development which then found its way into early church music. Somewhere along this path, the West lost the the microtone. The over arching theme of this paper and others to come is to figure out how, and why this occurred. This paper is the first step towards understanding the decision to drop the microtone. Since church music has great influence on the culture, I began my research on the split of the Eastern and Western christian churches.The growing estrangement between Eastern and Western Christian churches eventually led to their final separation in the eleventh century, but the cultural, political, and theological factors that precipitated it began as early as the third or fourth centuries C.E. This paper will explore the developmental history of the Byzantine Empire through the East and West schism. It will examine the musical theories and use of form and mode. The mutual influence of both East and West is evident in the music throughout time and will be examined through analysis and organization of liturgical music. Although, the Byzantine life towards the end of

the crusades politically concluded, Christianity did not end here. The paper will conclude with examples of the continuation of musical development and variations of Byzantine liturgical practice to reflect a variety of paths taken by music.

Wise, Anna et al.

Psychological Sciences, Poster Location

Objectives: Lesbian, gay, and bisexual youth have higher rates of posttraumatic stress disorder (PTSD) and depression than their heterosexual peers, and racial minority status may exacerbate this risk. Social support has been identified as an important protective factor, but LGB youth are likely to have threats to their social support systems. Different sources of social support (e.g., family, friends, significant others) have differing buffering effects on psychological outcomes for LGB youth. Methods: The present paper explores the relationship between source of social support and mental health in a sample of previously traumatized, low SES, racial minority LGB adolescents and young adults and investigates age as a possible moderator of the relationship between source of social support and mental health outcomes. Results: Social support from family (B= -.302 p= .03; B= -.364, p= .008), but not friends or significant others was significantly predictive of PTSD and depression symptoms. Age x support source interactions revealed that family social support was associated with significantly lower PTSD and depression symptoms when participants were between the ages of 16 and 19 but friend social support was associated with significantly lower PTSD and depression symptoms for participants in their early twenties. Conclusions: As social support sources change during the transition to young adulthood, interventions should consider developmentally-appropriate means of improving relevant social support provision.

Wissman, Kathryn et al.

Psychological Sciences, Poster Location

Taking interim tests over previous information facilitates the learning of subsequent information (Szpunar et al., 2008). However, research has established that for text, the interim test effect is robust on an immediate test but attenuated after a delay (Wissman & Rawson, 2015). One explanation for the fragility of the effect with text is the context shift account, which states that engaging in retrieval-based tasks induces an internal context shift that enhances memory on an immediate test by decreasing access to previously learned information (Divis & Benjamin, 2014).

Learners read a text, divided into three sections. Following Section 1 and 2, learners recalled information from the previous section (section recall), recalled exemplars from categories (semantic recall), or completed Sudoku (control). Immediately after Section 3, learners recalled information from Section 1 or 3. After a delay, learners recalled information from Section 1 or 3. On the immediate test, Section 3 recall was greater for the section recall group versus the control group, replicating the interim test effect. Section 1 recall was similar for all three groups, inconsistent with the context shift account. Thus, the context shift account is not a viable explanation for the fragility of the interim test effect for text.

Witchey, Shannah et al.

Biological Science, Poster Location

In female rodents, the oxytocin (Oxt) system is not only important to birth and milk ejection but also plays a role in the initiation of maternal behavior. Previous work from our lab has shown that Oxt receptor knockout (Oxtr-/-) mice and forebrain Oxt receptor knockout (OxtrFB/FB) mice are more likely to abandon their pups than wildtype (+/+) females. To determine if aversion is restricted to the postpartum period, we examined maternal sensitization in virgin OxtrFB/FB and Oxtr +/+ females following repeated exposure to foster pups. We hypothesized that there would be genotypic differences in the onset of maternal behaviors, with OxtrFB/FB mice having a delay in their onset, and genotypic differences in c-Fos immunoreactivity in brain areas known to be important maternal care, with OxtrFB/FB mice having reduced c-Fos activation. While there were no significant differences in any maternal behaviors scored across any days, there were significance genotypic differences in the latency to retrieve the first pup on day one ($p=.006$) and all pups retrieved on day one ($p=.012$). We also found a difference in c-Fos activation, with OxtrFB/FB mice having decreased c-Fos immunoreactivity in the dorsal region of the lateral septum compared to +/+ controls.

Wood, Lauren et al.

Psychological Sciences, Poster Location

Past research has shows that mothers' use of gentle guidance is associated with greater child compliance, while mothers' use of control is related to child defiance (Karreman et al., 2006). Given that Latina and adolescent mothers are more likely to experience high levels of parenting-related

stress and demonstrate high levels of control and directiveness (Chaudhuri et al., 2009), research is needed to demonstrate how these behaviors are associated with children's behavior. This study included 146 Latina adolescent mothers who were assessed when their children were 18- and 24-months old. We sought to examine whether maternal reported levels of stress at wave 1 would influence levels of maternal guidance and control behaviors at wave 2 (Kochanska et al., 1995). When controlling for maternal guidance and control behaviors, child's age and reactivity, and child compliance at wave 1 and 2, we found that mothers who reported higher levels of child-related stress at wave 1 showed a decrease in the use of guiding behaviors across time. Furthermore, mothers who reported higher levels of parenting role stress at wave 1 showed an increase in their use of controlling behaviors. These findings suggest parenting stress as a target for intervention for adolescent mothers.

Wood, Lauren et al.

Psychological Sciences, Poster Location

Latina adolescent mothers remain under-represented in investigations of maternal behaviors as they relate to child outcomes. Latina mothers frequently utilize controlling parenting, an literature remains mixed on whether this exhibits negative outcomes similar to those of European American families (Carlson & Harwood, 2003). Recent studies have just begun to consider the affective quality of minority mothers' interactions as potential moderators of their controlling behaviors (Ispa et al., 2013). Participants included 170 Latina, adolescent mothers and their toddlers, who were 18 and 24-months-old at two waves of data collection. Data included behavioral observations of maternal control, positive affect, and negative affect (W1) and child compliance and defiance (W1 & W2), all coded within a clean-up task. Observed child reactivity and maternal reported life stress were utilized as controls. Preliminary analyses were tested in MPlus. Results revealed a significant interaction between maternal control and positive affect predicting changes in child compliance ($p = .01$). Decomposed interactions indicated that maternal control predicted decreases child compliance only when positive affect was high (1 SD above mean). Continued analyses will incorporate maternal reported acculturation and enculturation in consideration of understanding the mixed findings on how control influences child behavior in Latino families.

Worthington, Jenny

Lifespan Development & Educational Science, Poster Location

The purpose of this study was to investigate the effectiveness of a computer-assisted, school-based intervention program for teaching social skills to children with higher functioning ASD. Using a repeated measures design, comprehensive social skills instruction that utilized teacher-led and computer-assisted lessons was implemented with nine elementary-aged students. Overall, results demonstrated that participants' social skills improved as rated by teachers' perceptions of overall social competence. However, sustained improvement was not achieved. This study extends the research on the development of social skills among children with ASD by examining perceptions of social responsiveness, rather than noting how often participants engaged in prosocial behaviors. It also provides applied evidence on the use of an intervention package deemed highly acceptable by educators. Recommendations for future research endeavors and the potential implications for practice are discussed.

Wu, Mengjiao et al.

Lifespan Development & Educational Science, Poster Location

Appropriate apologies are regarded as a necessary skill for human interaction (Linnell, 1992, p.34). Different pragmatic preferences due to different cultures might lead to unsuccessful communications even when English is used by both interlocutors. This study examines the impact of social distance, culture difference, and English language proficiencies on the use of apology strategies among ESL students. The study was conducted with 36 ESL students (16 Chinese and 16 Arabic native speakers) at different English language proficiency levels in a Midwest university. A 6-scenario Discourse Completion Test (DCT) was designed and completed to identify participants' usage of apology strategies in different situations, which were differentiated by the social distances (intimacy) levels between interlocutors. The written replies were coded according to Nureddeen's study (2008). Other factors such as social power, physical/psychological aggression, and face-threatening were also taken into consideration. The results are consistent with previous studies. First the statistics indicate pragmatic differences of the scenario where the interlocutor is a stranger with a significantly more frequent use of IFIDs, explanation, and concerns for hearer is identified. Secondly, the data is supportive to the hypothesis of the influence of speakers' L1 and English language proficiency on the choice of strategies.

Wynn, Casey

Math, Poster Location

In this poster, we will describe all supercharacter theories of semiextraspecial p-groups and Frobenius groups. We first review the constructions which will classify these supercharacter theories. We then show that the supercharacter theories of these groups, as well as the more general Camina pairs, must have nontrivial C-normal subgroups. Next, we examine the superclass structure to show that the supercharacter theory can be constructed from supercharacter theories of subgroups of the group and its quotient groups. We can apply this to count the number of supercharacter theories for the group.

Yarabarla, Sriramakrishna

Chemistry & Biochemistry

Conventional chemotherapeutic agents like cisplatin, doxorubicin while highly effective cause systemic side effects due to lack of specificity towards cancer cells. Further, few cancer cell lines acquired resistance to platinum therapy. Cancer cells compared to normal cells have elevated Reactive Oxygen Species (ROS) generation, are under increased oxidative stress and more vulnerable to further oxidative insult induced by ROS-generating agents. This crucial difference can be exploited to induce preferential cancer cell death through ROS-mediated mechanism by rationally designed therapeutic agents. In this context, copper based Nano Particle (NP) systems can be potential alternatives to molecular drugs due to the ability of copper to generate ROS by Fenton-like reaction. Our lab is currently exploring several biocompatible-polymer coated copper based NP systems as anticancer agents. We demonstrated these NPs induce cancer cell death by elevating the ROS levels. Some of the NPs are shown to exhibit higher toxicity towards cancer cells (PC3, HT29) compared to normal HEK293 cell line. We propose that the elevated ROS generation in the presence of copper based NPs results in DNA damage triggering apoptosis and ultimately lead to cell death. Future studies include determination of mechanism of cell death by apoptosis detection assay, immunostaining and western blot technique.

Yoho, Amanda

Lifespan Development & Educational Science, Poster Location

Parent child play based interactions is a research-based method of intervention with positive effects for young children with developmental delays. Children are able to sustain complex play interactions and increase communication attempts, when caregivers implement specific strategies and maintain

the skills overtime. The participant of this study is a one and a half-year-old male child with global delays and his mother. The setting is in the child's natural environment of his home where most of his time is spent. The research method is a single subject AB design with baseline and intervention components. The independent variables of the study are parent child interactions during playtime while using Enhanced Milieu Teaching strategies. The dependent variable is the child's ability to increase play interactions with caregiver and verbal communication. The preliminary results of this research study suggest that it will correspond with past research to show that play based interaction, while using Enhanced Milieu Teaching strategies will be effective in increasing play and communication skills for children with developmental disabilities. The implications of this study are that parents will use specific strategies in modeling desired behaviors and communicate responses.

Young, Nicholas

Architecture, Poster Location

This paper investigates the use of three different fascade materials, with three different penetrations of a mid-rise commercial building located in three dense cities with different climate zones (Pittsburgh, PA; Richmond, VA; Jacksonville, FL). These variable combinations are simulated, following 90.1, to understand the impact of these twenty-seven outcomes have on a cities WetBulb Globe Temperature, as well as, on the building itself. The three cities are chosen due to their morphology and density are very similar, not to skew the results of the study besides that the three cities have different climate zones which are as follows: humid continental (cool summer)climate, humid continental (warm summer) climate, and humid subtropical climate. The results from this analysis can be used for the proper selection of materials and penetrations in their allocated climate zones on the east coast of the United States. The anticipated outcome of these simulations and research is that each climate zone will produce possibly diverse results to one another with the mid climate zone, humid climate (warm summer) logically being the average from the other two cities.

Zamary, Amanda et al.

Psychological Sciences, Poster Location

The current research focuses on the use of provided examples and example classification to learn declarative concepts, which are abstract concepts denoted by key terms with short definitions of the meaning of the concept. Provided examples are examples given to students to further illustrate

abstract concepts. In example classification, students are asked which concept each example illustrates. We predicted that students who classified examples would do better on an example classification posttest than students who studied provided examples, due to indirect evidence from the testing effect literature (whereby example classification is functionally a form of practice testing) and theory of transfer-appropriate processing (as posttest performance depends on the overlap between processes engaged during encoding and the subsequent task). In Experiment 1, students who studied provided examples outperformed students who classified examples on an example classification posttest. In Experiment 2, we added an example classification group that received feedback, with the expectation that this adjustment would boost performance on the posttest over studying provided examples alone. However, posttest scores between the example classification group with feedback was similar to performance in the provided examples group, indicating that testing was not as effective as expected in this context of learning declarative concepts.

Zelic, Kate et al.

Psychological Sciences, Poster Location

Relational victimization involves purposeful harm of social relationships through manipulation and damage of social ties. It is a prevalent problem in adolescents. Assessment of relational victimization has been limited in several ways, such as measures including only one or two items, dichotomous responses, and lack of consistency in use across studies. The present study sought to create a new measure of relational victimization that more comprehensively reflected multiple components of this construct. Adolescents completed the 23-item Multidimensional Relational Victimization Questionnaire (MRVQ) created for this study. An exploratory factor analysis was conducted to examine the structure of the MRVQ. Final analyses yielded a 21-item questionnaire with three factors: factor 1 consisted of items assessing social manipulation, factor 2 consisted of items assessing cyberbullying, and factor 3 consisted of items assessing direct relational victimization. The findings suggest that a multidimensional view of relational victimization is needed in order to capture the nuances of the construct. The development of a new multidimensional self-report measure of relational victimization may be beneficial in order to disentangle the potential negative effects of each form and to tailor prevention/intervention efforts.

Zhao, Huanyang

Geography, Poster Location

This project aims to integrate both the Netlogo and R statistical environment to simulate natural disaster events. The state of Kansas is used as the study area, estimations of potential tornado occurrences basing on historical tornado data as well as the simulated tornado tracks are created by combining the analytical strengths of both packages. The result proves the viability of integrating and utilizing the specialities of both analytical packages in simulating and analyzing natural hazards.

Zulauf, Emily

Podiatric Medicine, Poster Location

Often times, conservative treatment is insufficient for long-term resolution of recalcitrant verrucae plantaris. In addition to being aesthetically displeasing, severe cases that are left untreated can be debilitating, often leading to pain, gait abnormalities, and cutaneous spread. Inoculation through implantation of verruca plantaris into a muscle is believed to provoke an immune response against the human papilloma virus (HPV), resulting in auto-immunization. The purpose of this study was to determine rate of recurrence following implantation of verrucous tissue into the abductor hallucis muscle belly. It was hypothesized that implantation provoked an immune response, preventing recurrence.