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**ACF 2015 October - December Presentations**

**Abeare, Mackenzie**

October – December FY15

62nd Annual American College of Sports Medicine Conference

"NECK COOLING IS INEFFECTIVE IN REDUCING PHYSIOLOGICAL AND PERCEPTUAL STRAIN FOLLOWING PASSIVELY-INDUCED HYPERTHERMIA"

Combined hand and forearm cooling effectively attenuates hyperthermia during exercise, and improves recovery between bouts of exercise in an uncompensable heat stress environment. Neck cooling can also be effective in reducing thermoregulatory strain during exercise in high ambient temperatures or with sufficient magnitude of cooling. PURPOSE: To determine the effect of active cooling on temperature, heart rate and thermal sensation following passive hyperthermia. METHODS: Eleven healthy participants (22±5 y; 173±10 cm; 71.8±15.1 kg) were passively heated to 39°C rectal temperature (Tre) by 40°C whole-body immersion. They were then removed from the water and sat quietly in a room (24.6±0.8°C and 49.8±6.3% rh) and used either a 2.6 m2 commercially available cooling towel wrapped against the surface of their neck (NT), hand and forearm immersion in 10.5±1.3°C water (H) or cooled passively (C) until Tre reached 38°C. Heart rate, Tre, mean skin temperature (T sk), and thermal sensation (TS) were measured pre and post whole-body immersion, and every 5 min during cooling. Nude body mass was measured before and after each trial. One and two way repeated measures ANOVA were used to determine differences across time and between groups. RESULTS: Time to cool was faster (p<0.01) with H (24±7 min) compared to C and NT (C: 37±13 min; NT: 38±9 min). There were Tre interaction effects (time and condition, p<0.01) at 10 min cooling with H (38.7±0.3°C) compared to NT (39.0±0.2°C) and C (38.9±0.2°C), and at 15 min cooling with H (38.4±0.4°C) when compared to NT (38.7±0.2°C) and C (38.7±0.3°C). There was also a lower T sk (p<0.05) when using H (34.5±2.7°C) compared to NT (34.9±2.9°C) and C (34.7±2.8°C). Mean heart rate during recovery was lower (p<0.01) when using hand cooling (96±19 beats"min-1) compared to both neck towel cooling (107±20 beats"min-1) and control (105±22 beats"min-1). Perceived TS was found to be lower (p<0.01) with H (4.1±1.7) compared to NT and C (NT 4.7±1.4; C 4.6±1.5). Across the duration of each of the trials, there was no significant difference in body mass change. CONCLUSION: Neck towel cooling was found to be an ineffective hyperthermia recovery strategy. However, hand and forearm cooling effectively reduced thermal strain and recovery time, along with decreasing heart rate and improving perceptual responses.

**Armstrong, Eric**

October – December FY15

2014 Annual GSA Meeting

"MODELING P-T-TIME PATHS WITHIN THE CHUNKY GAL MOUNTAIN FAULT, CENTRAL BLUE RIDGE, NORTH CAROLINA"

The terrane-bounding Chunky Gal Mountain Fault (CGMF) in the Southern Appalachian Central Blue Ridge forms part of the boundary of the Buck Creek-Chunky Gal mafic-ultramafic complex. Fault movement during peak Taconian metamorphism (~460 Ma) may have emplaced this ocean crustal fragment. Four fault zone samples represent variations in protolith, assemblage, and strain. Complex garnet zoning profiles help constrain the fault zone P-T path. Sample L3 is a Bt-rich ultramylonite with Grt, Pl, Kfs, and Ms porphyroclasts. JR22, 13-3b and 13-5a are from a more aluminous exposure; all contain Bt, Pl porphyroclasts, and abundant rounded to eye-shaped Grt?s with fibrous Sil inclusions near the rim. JR22 and 13-5a are protomylonites; the matrix of JR22 is rich in coarse Sil whereas 13-5a has Ky and Ms. 13-3b is migmatitic with the largest Grt?s and matrix Ky. All samples have accessory Ilm, Rt, and Mnz. Textural observations suggest a progression from Sil to Ky and Ilm to Rt stabilities. Large Grt?s are mostly inclusion free with Mg-rich, Ca-poor inclusion-rich cores and fibrolite inclusions in some rims. Core to rim profiles display a distinct drop in Ca (a Ca-poor ?moat?) and a modest Mg increase. Outward from the ?moat', this trend reverses with increasing Ca and Mn and decreasing Mg toward the rim. T-P conditions estimated using TWQ suggest minimum peak conditions of 750-800oC, 0.6-0.7 GPa within the Sil stability field. Grt rims equilibrated within the Ky stability field at ~550-600 oC, 0.7-0.8 GPa. Equilibrium assemblage diagrams created with Theriak-Domino (TD) using whole-rock geochemistry suggest similar T-P conditions. TD models of Grt isopleth thermobarometry yield a counterclockwise P-T path. The initial (core-?moat?) stage generates decreasing pressure (~0.1GPa) with a slight increase (~10oC) in temperature. ?Moat? to rim preserves a nearly isothermal spike in pressure followed by a distinct, near-isobaric temperature decrease. The pressure spike may indicate loading across the CGMF during peak metamorphism. Work is in progress to better constrain P-T path models by accounting for Grt fractionation with approaches that model Grt growth and diffusion. These efforts must account for early diffusional re-equilibration of Grt profiles. Some preliminary results are consistent with initial P-T path estimates.

**Brady, Ashley**

October – December FY15

Geological Society of America Fall Meeting

"NUTRIENT DYNAMICS IN A STORMWATER MANAGEMENT COMPLEX AT GRAND VALLEY STATE UNIVERSITY, ALLENDALE, MICHIGAN"

Grand Valley State University (GVSU) is a liberal arts university located in western Michigan with approximately 25,000 students. The university was founded in 1960 as a commuter campus. The infrastructure needed to support the students and cars has resulted in large amounts of stormwater runoff which impacts nearby ravine systems. Stormwater management structures have been implemented since the early 2000s to reduce offsite impacts. In 2011, a 44-acre stormwater management complex was completed. Over the summer of 2012, automated water samplers were used collect suspended solids and nutrient data to evaluate the overall efficiency of the newly constructed detention ponds. Completion of the detention ponds decreased stormwater input into one of the largest ravines by roughly 25 percent. Over 200 samples were analyzed for orthophosphate, nitrate, and chloride during rain events and between rain events, to determine baseline conditions. Samples were collected at the inlet and outlet of the stormwater management complex. Baseline conditions were observed during periods of little precipitation and used for comparison of nutrient concentrations. Average orthophosphate concentrations decreased from 0.58 ppm at the inlet to 0.21 ppm at the outlet. Average nitrate concentrations decreased from 1.95 ppm at the inlet to 0.45 ppm at the outlet, and may be due to fertilizer-derived nutrients. Average chloride concentration increased from 133.5 ppm at the inlet to 189.8 ppm at the outlet, likely due to water evaporation as water moved through the stormwater management complex. Chloride and orthophosphate concentrations may be elevated due to irrigation water derived from a well in the Marshall Formation aquifer. Rain event samples were taken at 5-minute intervals during periods of precipitation greater than 0.1 inches per hour. Average orthophosphate concentrations decreased from 0.12 ppm at the inlet to 0.02 ppm at the outlet. Average nitrate concentrations decreased from 0.73 ppm at the inlet to 0.51 ppm at the outlet. Average chloride concentration increased from 24.46 ppm at the inlet to 72.67 ppm at the outlet. Rain event concentrations of orthophosphate, chloride, and nitrate were generally lower than baseline conditions due to dilution of the water in the stormwater management complex.

**Colaianne, Nicholas**

October – December FY15

Geological Society of America Annual Conference

"Comparison of two suspended sediment analysis methods"

Comparison of two suspended sediment analysis methods Grand Valley State University (GVSU) is a liberal arts university located on 1,322 acres to the west of the Grand River in western Michigan. Deep ravines have been eroded into the glacial sediments on which the campus is built resulting in a ravine system east of campus which flows into the Grand River. Since the construction of the GVSU campus, beginning in 1960, the amount of impermeable surface has increased resulting in increased storm water runoff and peak flows in the ravines. Lag time between the start of a rain event and the arrival of runoff in the ravine system has decreased. Erosion caused by the increased peak flow and decreased lag time has resulted in widespread slope stability problems, some near campus buildings and structures. In fall 2013, a prominent historic bridge was temporarily closed due to unstable footings. Runoff measurement, sampling, and water quality analysis in the ravines has been ongoing since 2006. Over 900 samples have been analyzed for total suspended sediment (TSS), using a modified EPA method ESS 340.2. In effort to find a more efficient method for determining sediment loads samples previously analyzed using the EPA method were reanalyzed using a modified version of the ASTM Standard Test Method D 3977-97 (suspended solid concentration (SSC). The SSC method is simpler and faster, especially when samples have high sediment concentrations. The TSS method allows preservation of the sample, is more widely used by wastewater treatment facilities, and is more compatible with performing other water quality measurements. The SSC method requires fewer steps and there is less chance for analytical error while processing samples, however it requires Total Dissolved Salts (TDS) data for comparison with TSS data. In order to compare the two analysis methods a random subsample from 600 previously analyzed samples taken from 2011 to 2013, as well as non-randomized samples collected in 2014 were reanalyzed. Preliminary results comparing the TSS and SSC method for random samples and 42 non-random samples suggest that the TSS method underestimates the suspended sediment content, particularly for lower sediment concentrations. The TSS method may be less accurate at lower concentrations due to sampling bias resulting from sample size; and the potential for analytical errors due to scale precision.

**Faleni, Jessica**

October – December FY15

MiWLA Conference 2014

"Developing Graphic Organizers For Your Classroom: The Conversation Continues"

Graphic organizers can help language teachers and learners develop greater awareness of the types of oral tasks speakers are expected to successfully handle. In this session, participants will briefly review the parameters used to evaluate oral proficiency. They will review and categorize several graphic organizers covering a range of proficiency levels and topics. Finally, they will draft sample organizers to display in their own classrooms.

**Franklin, Taylor**

October – December FY15

Michigan Premiere Public Health Conference

"A Compare and Contrast of Health Care in Kenya, Africa and the United States: Grand Valley State University s Interdisciplinary Service Learning Program"

The objective of this research is to investigate the best practice initiatives of healthcare involved from a developing countrys perspective at both the Tigoni District Hospital and Wema Clinic located in Kenya. There are three key parts that went into researching best practices and they are outlined as follows: Part one includes the hands-on portion of research which was collected by shadowing and observing numerous medical professionals while on a Community Service Learning Trip in Kenya this summer. This included keeping a record of each patient observed during the three weeks spent volunteering. Part two is a case study of the patients seen and an examination of the major issues observed during the initial data collection at the hospitals. Finally, part three includes both an investigation and comparison of best practice policies found to be put in place in both Kenya and the United States.

**Janardan, Veena**

October – December FY15

2014 ASCB/IFCB Meeting

"Identifying the c-MET phosphorylation site regulated by CD82 in prostate tumor cells"

CD82 (KAI), a metastasis tumor suppressor protein is under-expressed in prostate as well as several other types of metastatic cancers. It inhibits cancer metastasis, but the mechanism through which regulation happens remains unclear. Various pathways are being explored in this lab, including regulation of c-MET, a growth factor receptor observed to have increased activation in tumor cells. CD82 and c-MET do not co-localize, suggesting that CD82 indirectly downregulates c-MET. To be expressed, c-MET first needs to bind to its ligand, HGF. This growth factor encourages phosphorylation of c-MET, consequently activating it. C-Met has four tyrosine phosphorylation sites that include p-Tyr 1003, p-Tyr 1234/1235, p-Tyr 1349 and p-Tyr 1365. Knowing how each phosphorylation site of c-Met affects downstream signaling event, our lab is focused in identifying which site is regulated by CD82. Another tetraspanin, CD151 that promotes tumor progression and metastasis has been shown to associate with c-Met and the integrins, CD82 associates with. We are currently exploring the levels and expression of CD151 and its association with c-Met in the presence and absence of CD82. This we believe will provide additional insight into how CD82 overall regulates c-Met and prevents prostate tumor metastasis.

**Joffre, Kevin**

October – December FY15

American Association for Teaching and Curriculum 2014 Conference

"Identifying the Characteristics of an Ideal Reading Intervention Program for Teen Mothers"

No Abstract.

**Johnson, Tessa**

October – December FY15

Psychonomic Society Annual Meeting

"Comparative Decision Making: Age Differences in Stopping Rule Selection"

The purpose of this study is to assess whether adolescents, ages ranging from 8-17, adhere to Stopping Rule Selection Theory (SRS), which hypothesizes that a decision maker is able to use multiple stopping rules for a variety of decision tasks. We compared decision making strategies among children and adults via a computerized, deferred decision making task. The objective was to make a decision to buy or not to buy a product based on the recommendations consulted. The first goal is to investigate how source reliability affects the number of recommendations consulted and the accuracy of the decision. The second goal is to observe how the dynamics of stopping rule selection changes across age groups, and whether the decision making departs from the optimal. Results showed striking differences in the number of reviews consulted and in accuracy with respect to changes in source reliability and subject age.

**Khudhur, Basma**

October – December FY15

The 2014 American Society for Cell Biology Annual Meeting

"Biological testing of novel telomerase inhibitors"

Normal cells are limited in the number of times they can divide by the caps on the ends of their chromosomes, called telomeres. These caps are supposed to become degraded over time, eventually signaling the cell to die when they become too short. During the summer of 2013, three novel compounds were made via synthesis of cinnamoyl chloride derivatives. These three compounds all contain active sites that are identical to those identified on BIBR 1532, a known telomerase inhibitor, with one key difference in the element attached to the aromatic ring. These three compounds were tested for anticancer properties on metastatic prostate cancer cell lines. Their efficacy will be compared against that of BIBR 1532 to determine if this novel compound would prove to be an adequate cancer treatment. If these compounds prove to be telomerase inhibitors, it would be a breakthrough as to how BIBR 1532 functions, and could potentially lead to a more effective cancer treatment. While the compounds were tested using metastatic prostate cancer cells, these potential treatments have applications in both breast and pancreatic cancers as well.

**Mercado-Idziak, Natosha**

October – December FY15

Annual Meeting of the Society for Neuroscience

"Embryonic lead exposures cause learning deficits in adult male and female zebrafish"

The zebrafish has become a useful organism for studying the effects of environmental contaminants on the neurobehavioral development of an organism due to its short generation times, high numbers of eggs per female, ease of breeding, and short developmental periods before hatching. The present study investigated the effects on learning due to embryonic exposure to lead (Pb2+) in adult male and female zebrafish using avoidance conditioning as the behavioral paradigm. Adult zebrafish were trained to associate light with shocks in a fish shuttle-box consisting of a water-filled tank separated by a barrier into two equal compartments. A trial began with the onset of light on the side of the fish's location and the manually raised barrier; 12 seconds later repetitive electrical shocks were administered. Fish initially swam through the barrier after receiving several shocks. After repeated trials, fish learned to swim from the lighted end to the dark end before the administration of shocks to avoid the body shock, which is called avoidance response. Two days later, fish were tested for avoidance responses. In Experiment 1, adult male zebrafish that were exposed to 0, 0.1, 1, or 10 µM Pb2+ as embryos (2-24 hours post fertilization) were trained and tested for avoidance responses. The results showed that male zebrafish hatched from embryos exposed to no lead learned avoidance responses during training and showed significantly increased avoidance responses during testing. Male zebrafish hatched from embryos exposed to Pb2+ showed no significant increases in avoidance responses from training to testing. In Experiment 2, adult female zebrafish that were exposed to an identical exposure regimen as in Experiment 1 were trained and tested for avoidance responses. The results showed that female zebrafish hatched from embryos exposed to no lead learned avoidance responses during training and showed increased avoidance responses during testing, while female zebrafish hatched from embryos exposed to Pb2+ showed no significant changes in avoidance responses from training to testing. The pooled results of both experiments showed that embryonic Pb2+ exposure produced learning impairments in a concentration-dependent manner. (Supported by NIEHS grant ES04184 and GVSU grant-in-aid)

**Musser, Karen**

October – December FY15

Geological Society of America (GSA)

"Using textural and EBSD data to characterize strain and kinematic variations within the Chunky Gal Mountain Fault, Southern(Appalachian Blue Ridge province, North Carolina"

In its type exposure, the terrane-bounding Chunky Gal Mountain Fault separates strongly foliated amphibolite from biotite paragneiss. The fault zone includes several NE-trending, steeply SE dipping ~ 1m wide mylonitic shear zones with apparent normal movement suggested by deflected foliation. Lineation orientations and shear sense from kinematic indicators vary within the zones, including steep lineations with normal kinematics and shallow NE-plunging lineations with either dextral or sinistral movement. Detailed strain and kinematic analysis is critical to understanding this complex fault zone. We focus here on a sample suite of Grt-Bt gneisses within shear zone L for which we have constraints on timing and metamorphic conditions of movement. All shear zone L samples possess a shallow elongation lineation. L6 from the shear zone center is typical of the mylonites and preserves sinistral kinematics. L3 (sinistral) and L4 (dextral) are ultramylonites from the SE and NW margins, respectively. L7 is a protomylonite (dextral), collected several cm NW of the shear zone. Quartz is extensively recrystallized; some larger grains contain subgrains and/or are flattened oblique to foliation. Quartz microstructures are mostly typical of regime 3 dislocation creep or transitional from regime 2 to 3 in lower strain domains. Quartz ribbon width varies from 0.05 mm in ultramylonite up to ~1 mm in lower strain domains. Feldspar porphyroclasts display undulose extinction and subgrain development with local fine recrystallization along some margins and tails. Textural variations appear to reflect differences in strain (e.g. ultramylonite protomylonite) rather than kinematics. Quartz CPO measured in several domains per sample using EBSD display asymmetry consistent with textural kinematic interpretations. Quartz c-axis orientations vary from cross girdle to single girdle patterns with increasing strain. Maxima near Z are consistent with basal and rhomb slip. CPO patterns are consistent with regime 3 dislocation creep. Cross girdle patterns suggest a significant component of pure shear in all but the highest strain domains. Our observations suggest that deformation took place at relatively high temperatures (>5-600oC) and samples with opposite kinematics deformed under similar deformation conditions.

**Orr, Samantha**

October – December FY15

Midwest Regional Chapter of the American College of Sports Medicine

"COGNITIVE AND MOTOR SKILL PERFORMANCE IS NOT IMPROVED BY NECK COOLING FOLLOWING PASSIVELY-INDUCED HYPERTHERMIA"

COGNITIVE AND MOTOR SKILL PERFORMANCE IS NOT IMPROVED BY NECK COOLING FOLLOWING PASSIVELY-INDUCED HYPERTHERMIA Samantha C. Orr, Mackenzie L. Abeare, Ross A. Sherman. Grand Valley State University, Allendale, Michigan. Hyperthermia causes a number of deleterious effects including decreased exercise performance and mental acuity. However, little research has determined the effectiveness of neck cooling on cognitive and motor skill performance. PURPOSE: To investigate the effect of neck cooling on cognitive and motor skill performance following passively-induced hyperthermia. METHODS: Six healthy people (age 24 ± 7 yrs, height 171 ± 10 cm, body mass 70.8 ± 12.3 kg) volunteered for the study. All participants were immersed in warm water (40°C) until core body temperature (Trec) reached 39°C, at which point they were removed and cooled using either a neck towel (NT) or sat quietly (CON) until Trec reached 38°C. Every 15 min, Trec, simple reaction time, Stroop word colors, time to complete a trail-making task, and time to screw three nuts on three bolts were measured. Nude body mass was also measured before and after each trial. Paired t-tests and repeated measures ANOVA were used to determine differences across time and between groups. RESULTS: There were no significant changes in cognitive or motor skill performance as a result of inducing hyperthermia. Furthermore, there were no significant changes in cognitive and motor skill performance when comparing CON or NT cooling, or across time (see Table 1.). Time to reach Trec of 38°C was not faster with neck cooling (CON 35 ± 13 min; NT 36 ± 12 min), however body mass was found to have significantly (p<0.01) reduced (pre 70.8 ± 12.3 kg, post 70.3 ± 12.1 kg). Table 1. Mean (± SD) time to complete simple reaction time, trail-making and nut-and-bolt tasks, and number of correct Stroop word colors during neck towel (NT) and passive (CON) cooling following passively-induced hyperthermia. Cognitive Task Cooling Time (min) 0 CON 0 NT 15 CON 15 NT End CON End NT Reaction time (ms): 395 ± 48 412 ± 82 404 ± 84 387 ± 109 355 ± 61 356 ± 45 Stroop word colors (#):32 ± 3 32 ± 2 32 ± 4 31 ± 2 31 ± 3 32 ± 3 Trail-making (s): 18 ± 4 22 ± 11 19 ± 2 20 ± 4 18 ± 4 20 ± 3 Nut-and-bolt (s): 48 ± 15 49 ± 16 51 ± 15 49 ± 14 50 ± 10 44 ± 10 CONCLUSION: Cognitive and motor skill performance was not negatively affected by passively-induced hyperthermia to 39°C, nor was it improved during recovery with application of a cooling neck towel. Further research needs to establish the role of hyperthermia on more sensitive and challenging cognitive and motor skill tasks, as well as then examining the impact of different cooling strategies on those tasks.

**Overway, Casey**

October – December FY15

National Women's Studies Association 2014: Feminist Transgressions

"The Portrayal of Gender and Disability in Pharmaceutical Advertisements for Arthritis"

How are disability, health, and gender portrayed in the United States pharmaceutical advertisements? This qualitative study explored how advertisements for arthritis prescription medications support and create gender through messages of health and ability. Arthritis was selected due to the prevalence and debilitating nature of this disorder which disproportionately affects women. Pharmaceutical advertisements were analyzed to explore how societys standards and norms, including hegemonic masculinity and emphasized femininity, are portrayed. Findings of this study reflect that there are more depictions of women as able-bodied and disabled, the healthy and able-bodied appear in nature, and overall the depictions represent gender norms.

**Pollock, Francis**

October – December FY15

Michigan's Premier Public Health Conference

"Grand Valley State University and Volunteer Solutions, Kenya, Africa- An Interdisciplinary Service Learning Approach."

Grand Valley State University has adopted a service learning immersion program to bring health care students to Kenya, Africa to work in hospitals and health clinics. This international partnership allows an interdisciplinary group of health students the opportunity to experience hands-on health care from a developing countrys prospective. We will describe the best practices for our international partnership development, define how the partnership is a total immersion for students in a global health setting, explain the GVSU/Kenya projects goals, objectives and outcomes and discuss the sustainability of our project. The audience will gain knowledge on the impact of global health experiences for future health care employees (students), a competence of a sustainable project incorporated in an international health care setting and the knowledge to support the ideas of global health initiative as part of a service learning/health care education at the collegiate level. An assessment of student pre and post travel surveys will be discussed to highlight the impact of the international partnership, immersion and overall global experience from a student perspective. Lessons learned and highlights from the partnership will also be included.

**Remtema, Zackery**

October – December FY15

2014 Annual Geological Society of America (GSA) Meeting

"MESOSCOPIC ANALYSIS OF BRITTLE DAMAGE ZONES, STE. GENEVIEVE FAULT ZONE, OZARK PLATEAU, MISSOURI"

MESOSCOPIC ANALYSIS OF BRITTLE DAMAGE ZONES, STE. GENEVIEVE FAULT ZONE, OZARK PLATEAU, MISSOURI Zack Remtema, Grand Valley State University, Geology, Allendale, MI 49403 John Weber, Grand Valley State University, Geology, Allendale, MI 49403 The Ste. Genevieve Fault forms the border between the Ozark Plateau, structurally high and sharp on its NE side, and the Illinois Basin. The 200 km long WNW-trending Ste. Genevieve Fault Zone extends from southeastern Missouri, across the Mississippi River into southern Illinois. Net slip across the fault zone is ~7 km. Two main periods of faulting (Middle Devonian, and late Mississippian/early Pennsylvanian time, with minor post-Pennsylvanian movement), have been suggested, but new Earthscope data suggest that small earthquakes may still occur in this zone. This mid-continental fault zone is generally deeply weather and poorly exposed and difficult to study at the sub-macroscopic scale. We study the relative timing and kinematics of a beautifully exposed suite of mesoscopic structures (cataclastic deformation bands, fault cores) in a well-developed, intense brittle damage zone that is sub-parallel and related to the Ste. Genevieve Fault Zone. The brittle structures are developed in the basal Cambrian LaMotte Sandstone at Pickle Creek Recreation Area in the uplifted and exhumed SE Ozark block of the Ste. Genevieve Fault. Our descriptions, and provisional chronology and kinematics of the main structures are as follows: 1) an early set of subhorizontal deformation bands (kinematics to be determined; possibly related to early layer-parallel shortening) are cut by 2) N60W-striking, NE- and SW-(steeply) dipping, nearly pure dip-slip, normal-sense shear deformation bands and normal faults, and 3) NE-striking, subvertical, dilational deformation bands and joints. We are currently developing and testing two working tectonic models: 1) The Ozarks have gone/are going structurally up and over the Illinois Basin along a giant Laramide-style NE-verging (SW-dipping) basement thrust, whose surface expression is today the steeply dipping Ste. Genevieve Fault. Accordingly, the Ozark Dome is the extended (stretched) fault-propagation fold at surface associated with this deep thrust. 2) The Ozarks form/formed in the uplifted footwall of a NE-dipping normal fault whose surface expression today is the steeply dipping Ste. Genevieve Fault. To test the two models we plan to collect additional outcrop data at new localities and to refine our chronological/kinematic analysis.

**Rosenberg, Adam**

October – December FY15

Lilly National Conference On Evidenced-Based Teaching and Learning

"A Case Study: How to restructure a teaching website to improve global and digital presence."

This paper is about a team of students and faculty who receive almost a half a million dollars per year grant from Google Grants Pro to advertise their websites. Google also provides the group with detailed analytics which show the effectiveness of the websites. The group in the past restructured one of its other teaching websites in accordance with Google analytics to improve the effectiveness of the website. As a consequence the group decided to do the same for its Data Workplace web site (www.gvsu.edu/workplacedata ). This paper is a summary of the changes that were made to: a. the content of the website b. the advertising campaign of the website and c. how these changes improved the analytics.

**Ruthven, Marissa**

October – December FY15

American Speech-Language-Hearing Association Annual Conference

"The Relation of Dialect Density and Executive Functioning in School Age Speakers of African-American English"

The correlations between dialect density and executive functioning (shifting, working memory, inhibition) in school-age speakers of African-American English were assessed. No significant correlations were found between dialect density and executive functioning. This may suggest that within-language code switching does not present the same cognitive load as between-language code switching.

**Rydecki, Krysta**

October – December FY15

2014 Society for Judgment and Decision Making's Annual Conference

"Higher Costs Warrant a Variety of Stopping Rules for Decision Making"

The critical step facing every decision maker is when to stop collecting evidence and make a decision. Decision making models usually utilize one stopping rule. We proposed a model for selecting from a set of multiple stopping rules in the same task (stopping rule selection, SRS, theory). We tested the model in an optional decision task in which subjects were asked to buy or reject products based on recommendations. The results revealed that subjects opened more recommendations and used a wider variety of stopping rules for more expensive than for less expensive products without sacrificing the response accuracy.

**Scholtens, Kaitlyn**

October – December FY15

American Speech Language Hearing Association Convention

"The Relation Between Dialect Density & Executive Functioning in School-Age Speakers of African-American English"

Aspects of executive functioning, such as inhibition and cognitive flexibility, are reportedly facilitated by bilingualism, potentially resulting from the need to suppress/activate one language based on social context (Bialystok & Viswanathan, 2009). Studies of cognitive processes in bidialectal children are sparse and suggest a cognitive switch cost. Terry, Hendrick, Evangelou, and Smith (2010) found that mismatches between AAE and MAE weakened performance on mathematical reasoning tests, posing a cognitive load on working memory. There remains a need to fill the gap in understanding the cognitive mechanisms influencing code-switching in bidialectal speakers.

**Schumacher-Smith, Kristin**

October – December FY15

MiWLA Conference 2014

"Developing Graphic Organizers for Your Classroom: The Conversation Continues"

Developing Graphic Organizers For Your Classroom: The Conversation Continues Graphic organizers can help language teachers and learners develop greater awareness of the types of oral tasks speakers are expected to successfully handle. In this session, participants will briefly review the parameters used to evaluate oral proficiency. They will review and categorize several graphic organizers covering a range of proficiency levels and topics. Finally, they will draft sample organizers to display in their own classrooms

**Segura, Yarisbel**

October – December FY15

Michigan's Premier Public Health Conference

"Grand Valley State University and Volunteer Solutions, Kenya, Africa- An Interdisciplinary Service Learning Approach."

No Abstract.

**Shady, Justin**

October – December FY15

The 2014 American Society for Cell Biology/IFCB Meeting

"Identifying the c-MET Phosphorylation Site Regulated by CD82 in Prostate Tumor Cells"

CD82 (KAI), a metastasis tumor suppressor protein is under-expressed in prostate as well as several other types of metastatic cancers. It inhibits cancer metastasis, but the mechanism through which regulation happens remains unclear. Various pathways are being explored in this lab, including regulation of c-MET, a growth factor receptor observed to have increased activation in tumor cells. CD82 and c-MET do not co-localize, suggesting that CD82 indirectly downregulates c-MET. To be expressed, c-MET first needs to bind to its ligand, HGF. This growth factor encourages phosphorylation of c-MET, consequently activating it. C-Met has four tyrosine phosphorylation sites that include p-Tyr 1003, p-Tyr 1234/1235, p-Tyr 1349 and p-Tyr 1365. Knowing how each phosphorylation site of c-Met affects downstream signaling event, our lab is focused in identifying which site is regulated by CD82. Another tetraspanin, CD151 that promotes tumor progression and metastasis has been shown to associate with c-Met and the integrins, CD82 associates with. We are currently exploring the levels and expression of CD151 and its association with c-Met in the presence and absence of CD82. This we believe will provide additional insight into how CD82 overall regulates c-Met and prevents prostate tumor metastasis.

**Swartz, Marissa**

October – December FY15

Lilly Conference On Evidenced-Based Teaching and Learning

"A Case Study: How to Restructure a Teaching Website to Improve Global and Digital Presence."

The paper examines a case study involving students and faculty restructuring a teaching website to increase its overall digital and global presence. With the help of Google through Google Grants Pro, the students and faculty are given the ability to develop the website further, as almost half a million dollars per year grant is given to the team; this grant is used to enhance the relationship between the website content and detailed analytics that directly relates to the purpose of the website. The paper presents the transformation of a teaching website, increasing not only its digital and global presence, but increasing its overall purpose throughout the world.

**Ten Haaf, Mark**

October – December FY15

94th Anniversary Meeting of the Classical Association of Mid-West and South (Southern Section)

"Aristotle and the Polis in Menander's Dyskolos"

ABSTRACT ARISTOTLE AND THE POLIS IN MENANDER'S DYSKOLOS It has long been argued that Menandrian plays align with Aristotelian classifications of drama (Post 1938; Munteanu 2002), and that Menander's portrayals of ethical problems and their solutions seem to have their origins exclusively in Peripatetic philosophy (Tierney, 1936; Quinn, 2001). I examine Menander's Dyskolos, and specifically the nature of the misanthrope Knemon through the lens of Aristotelian doctrines in the Politics and the Nicomachean Ethics pertaining to social interaction and obligation. Aristotle argues teleologically that humans, since they have the ability to speak and teach and judge, are obliged to use such faculties for the benefit of the other, and that the use of these faculties finds its greatest fulfillment within the social context of the polis. It has been argued that Aristotelian explanations of the psychological and cognitive processes, which govern action and reaction in social situations, also align with the behavior of Menandrian comedic characters (Cinaglia, 2012). The model is consistent with Knemon, the principal character in the Dyskolos. In the Dyskolos, Knemon seems in no way to act according to Aristotelian principles which cultivate "the good life", choosing instead a life of social withdrawal punctuated by fits of rage hurled against any stranger who dares to draw near. He hates all of humanity, believing all to be incapable of charity, and he neglects his own family, which he has failed to keep together. In the prologue, Menander uses the word À¬½¸ÁÉÀ¿Â to describe Knemon, a double meaning: first, Knemon is far from man physically, remote, because he has quarantined his property from all who do not belong to his household; the stronger use of the word, "inhuman" or "savage", fits the plot of the play and the arc of Knemon's character. I argue that Knemon, while he neglects the naturally human tasks of conversation and social activity, cannot be called fully human. Through the course of the play, however, Knemon's opinion about humanity is altered, and when marriage is arranged for his daughter, he allows his family with Knemon himself to be united to another. In this way, he receives a new status as an active member of the polis, influenced by new family members who seek to improve him. Menander presents the ethical development of Knemon into a functional, political person. The manner in which it is achieved is harmonious with Aristotle's teachings regarding the teleology of human nature, the psychology of social decision making, and the importance of the polis. SELECT BIBLIOGRAPHY Cameron, R. 'Aristotle's Teleology', Philosophy Compass 5/12 (2010) 1096-1106. Cinaglia, V. 'Aristotle and Menander on How People Go Wrong', The Classical Quarterly 62, (2012), 553-556 at 553. Fortenbaugh, W. W. 'Menander's Perikeiromene: Misfortune, Vehemence, and Polemon', Phoenix, Vol. 28, No. 4 (1974) 430-443. Kenny, A. Aristotle on the Perfect Life (Oxford, 1992) 35-36. Konstan, D. Greek Comedy and Ideology (Oxford, 1995), 106. Kraut, R. Aristotle on the Human Good (Princeton, 1989), 115-116. Pellegrin, P. 'Aristotle's Politics', in C. Shields (ed.), The Oxford Handbook of Aristotle (Oxford, 2012), 558-585, at 568. MacCary, W. T. 'Menander's Soldiers: Their Names, Roles, and Masks', The American Journal of Philology, Vol. 93, No.2 (Apr., 1972), 279-298. Munteanu, D. 'Types of Anagnorisis: Aristotle and Menander', Wiener Studien, 115 (2002) 111-126 Post, L. A. 'Aristotle and Menander', Transactions and Proceedings of the American Philological Association, Vol. 69 (1938) 1-42. Prosperi, M. 'The Masks of Menander', RES: Anthropology and Aesthetics 26 (1994), 22-31 at 26. Roberts, J. 'Excellences of the Citizen and of the Individual', in G. Anagnostopoulos, A Companion to Aristotle (Chichester, 2009), 555-565, at 563. Taylor, C. C. W. 'Politics', in J. Barnes, The Cambridge Companion to Aristotle (Cambridge, 1995), 233-258 at 238. Tierney, M. 'Aristotle and Menander', Proceedings of the Royal Irish Academy, Section C: Archaeology, Celtic Studies, History, Linquistics, Literature, Vol 43 (1935) 241-254. Quinn, T. S. 'Aristotle, Comedy and Menander', The Classical Bulletin 77.1, (2001) 3-18.

**Uhl, Katie**

October – December FY15

2014 American Society for Cell Biology (ASCB)/IFCB Meeting

"Biological Testing of Novel Telomerase Inhibitors"

Normal cells are limited in the number of times they can divide by the caps on the ends of their chromosomes, called telomeres. These caps are supposed to become degraded over time, eventually signaling the cell to die when they become too short. During the summer of 2013, three novel compounds were made via synthesis of cinnamoyl chloride derivatives. These three compounds all contain active sites that are identical to those identified on BIBR 1532, a known telomerase inhibitor, with one key difference in the element attached to the aromatic ring. These three compounds were tested for anticancer properties on metastatic prostate cancer cell lines. Their efficacy will be compared against that of BIBR 1532 to determine if this novel compound would prove to be an adequate cancer treatment. If these compounds prove to be telomerase inhibitors, it would be a breakthrough as to how BIBR 1532 functions, and could potentially lead to a more effective cancer treatment. While the compounds were tested using metastatic prostate cancer cells, these potential treatments have applications in both breast and pancreatic cancers as well.

**Ward, Brittany**

October – December FY15

2014 Annual Geological Society of America (GSA) Meeting

"THE CORDELL FORMATION AT SEUL CHOIX POINT, UPPER MICHIGAN: IMPLICATIONS FOR SILURIAN (LLANDOVERY-WENLOCK) PALEOENVIRONMENTS"

No Abstract.

**Westdorp, Eliot**

October – December FY15

Michigan World Language Association Conference 2014

"Developing Graphic Organizers For Your Classroom: The Conversation Continues"

I will be attending the MIWLA Conference (Michigan World Language Association) on October 23, 2014 in Lansing, MI. Our presentation is over oral proficiency in foreign language students and is entitled, "Developing Graphic Organizers For Your Classroom: The Conversation Continues".