Wednesday, February 14 Presentations

Behavioral and Social Sciences I — Ballroom B

Evening Session: 6:00 pm – 8:50 pm

6:00–6:20 pm

Jacqueline Hernandez, Bridget Hidalgo, Stephany Ortiz, Psychology

*Ethnicity, Family History, and Type 2 Diabetes Knowledge*

Faculty Mentor: Erin Merz, Psychology

Type 2 Diabetes (T2D) rates have increased among adolescents and young adults. T2D knowledge has been associated with preventative health behaviors. It is important to identify potential disparities in T2D in-at-risk populations. This study evaluated the relationship between self-identified ethnicity, family history of T2D, and diabetes knowledge in young adults. A cross-sectional survey was conducted on young adults from CSUDH (N = 345). On the 24-item measure of diabetes knowledge, there were no significant differences (p > .05) among those who self-identified as Hispanic/Latino (n = 235, M = 11.99), Black (n = 45, M = 11.82), Asian or Pacific Islander (n = 31, M = 12.16), White (n = 17, M = 12.59), or multiracial (n = 17, M = 12.65). Participants with a first- or second-degree relative with T2D had slightly higher knowledge (M = 12.70) than participants with no diagnosed relatives (n = 129, M = 11.61; p = .005). A factorial ANOVA suggested that there were no significant main effects for family history F (1, 345) = 2.79, p = .096 or ethnicity F (4, 345) = .41, p = .799, on diabetes knowledge; the interaction of ethnicity and family history of T2D was also not significant, F (4, 345) = .26, p = .903. These results suggest that the young adults in the sample had low diabetes knowledge (~50% of items answered correctly) and that there were no ethnic disparities in T2D knowledge. Participants with a family history of T2D were slightly more knowledgeable than those who had no family history possibly due to greater exposure to T2D information. These findings suggest that young adults in university settings may benefit from a blanket T2D educational intervention via the campus health center to improve diabetes knowledge.

6:20–6:40 pm

Hawk McFadzen, Sociology

*Food Access, its Impact on Healthy Eating in Los Angeles, and the Role of Urban Agriculture in Changing Consumer Behavior*

Faculty Mentor: Matthew G. Mutchler, Sociology

Food access is a complex and multifaceted topic, as barriers to healthy food can vary greatly by individual and by community. One aspect that is often studied, yet seems important to monitor is how food access affects dietary habits. Previous literature shows that food access is worse in low-income, urban areas with non-white populations. We were curious to know if the ease and convenience with which one can access fresh produce affects the healthfulness of their diet. For the purpose of this study, we define food access by availability and affordability of fresh fruits and vegetables. To research the matter, we analyzed the 2014 California Health Interview Survey data. We first conducted a set of bivariate analyses to discover the disparities in food access by race. We then examined the correlations between food availability and affordability and the healthy habit indicator of fast food consumption. Our results showed that racial disparities in food access persisted in California in 2014. Specifically, our cross-tabulation showed that whites had better food availability and accessibility compared to Latinx and Blacks (p<0.001). We also discovered a notable correlation between increased availability of affordable, fresh produce and reduced fast food consumption.
Specifically, the cross-tabulation showed that those who reported to always find affordable produce consumed significantly less fast food (p<0.001). Lastly, we explored the resurgence of urban agriculture in metropolitan areas as a way of alleviating the dependence on certain aspects of commodity bundles. Much research points to creative and state sanctioned urban agriculture as a viable solution to hunger, especially when practiced cooperatively. Additionally, through the community-building aspect of urban farm cooperatives, food insecurity can be treated secondarily on a local level.

6:40–7:00 pm

Andrew Luu, Psychology
The Impact of Reading Source on Retention of Factual Material and Abstract Concepts
Faculty Mentor: Larry Rosen, Psychology

Within the last few decades, the ubiquitous influence of technology has progressed beyond information, communication and entertainment and extended into the classroom. Technologically augmented learning is rapidly being integrated into college classrooms in the form of digital textbooks as an option to the traditional paper textbook. Although both deliver identical source material, they differ considerably in a multitude of other factors, such as distractibility, formatting, and supplemental capabilities. Individuals may also differ considerably in technology usage, perceived format desirability, and executive functioning, all of which have been shown to impact comprehension. Past research has yielded mixed results as to whether one format promotes reading comprehension over the other with some studies showing differences between source material and retention of facts versus abstract concepts. This study investigates the factors affecting reading comprehension and retention among college students using both formats. Forty-five participants will read texts in both formats in a counterbalanced order and be tested for learning outcomes including retention of both concrete material and abstract concepts. Furthermore, daily technology use, platform preference and executive function problems will be assessed as potential moderator variables. Preliminary results with the non-parametric Wilcoxon signed-rank test (N = 23) indicate significant differences with regard to retention of concrete material and abstract concepts. For both formats, the percentage of correctly answered concrete questions is significantly higher than the correct responses to abstract questions with Z = -2.541, p = .011 for print and Z = -3.218, p < .001 for digital. The results of this study and further research into this field will advance our understanding of how different formats influence memory, retention, and comprehension of both facts and abstract concepts. Through comparisons between participants’ performance, we can better assess which format promotes improved comprehension with potential to help students better comprehend and retain information.

7:00–7:20 pm

Aurelio Reyes Esparza, Sociology
The hidden Epidemic: HIV in the community
Faculty Mentor: Kelin Li, Sociology

Human Immunodeficiency Virus (HIV) is a disease that attacks the immune system and weakens it. Once the HIV virus takes over the immune system it will eventually lead to Acquired Immune Deficiency Syndrome (AIDS) if not treated properly. Although, there is no cure for HIV yet, there are ways to prevent coming in contact with this disease. The purpose of this paper is to look at the epidemic that is known as HIV, and how sexual orientation plays a role as to if an individual gets tested for HIV. Hypothesis for this research is that the sexual orientation of an individual does play a role as to if an individual gets tested for HIV. Furthermore, this study will take a look at the HIV epidemic in the United States. The 2012 General Social Survey (GSS) was used to obtain information on sexual orientation, and if a person had been tested for HIV. The results suggest that a person’s
sexual orientation does play a role as to getting for HIV. Specifically, heterosexual respondents had a higher rate of not being tested for HIV. This research goal is to make the readers take a step forward to improving their health. Don’t let the negative stigma that comes with getting tested hold you back. It is empirical that the individual who is engaging in sexual intercourse get tested every year for STD. If the individual is sexually active it is recommended that they get tested in 3-to-6 month intervals. The intent of this research is not to make the reader become abstinent, but to inform them on the data of those individual who get tested for HIV. The point here is to be informed, and use the resources that are provided.

7:20–7:30 pm COFFEE BREAK

7:30–7:50 pm

Andrew Luu, Psychology
Life History Theory on Gratification, Education, and Socioeconomic Status
Faculty Mentor: Kevin Dooley, Psychology

Life History Theory (LHT) is a perspective from evolutionary psychology that explains how organisms, as well as humans, choose to accumulate and allocate their resources toward somatic efforts which involve devoting resources to the survival of an individual or reproductive efforts which involve devoting resources to the survival of an individual’s genes. LHT posits two strategies, fast and slow. A fast strategy prioritizes allocation of resources into reproduction. Conversely, a slow strategy prioritizes allocation of resources toward one’s self. Previous studies suggest individuals' socioeconomic status (SES) growing up strongly influences their life history strategy (LHS). Those raised in resource-scarce environments are more likely to adopt a fast strategy. They fear resources may disappear and therefore, they invest in offspring sooner. Those raised in resource-abundant environments are more likely to adopt a slow strategy. They believe their resources will remain theirs and therefore, they invest in offspring later. Education emphasizes the allocation of resources toward one’s self. However, there is little research assessing the role of education in LHT. This study examines the impact of educational attainment and future educational goals on LHS while controlling for childhood SES. Participants were directed to a survey with a life history strategy measure, gratification measure, and demographic information asking for childhood SES, educational attainment, and future educational goals. Results show that, while controlling for childhood SES, those who desire to pursue a PhD/Doctorate’s score significantly higher on the mini-K which is indicative of a slow LHS, F(3,70)=2.900, p=.041, Partial Eta Squared=.111. Different environments may require different strategies to maximize one’s reproductive fitness. The results of this study and further research in this field can help individuals become cognitively aware of the strategies they employ and the potential benefits involved. As a result, individuals can actively change to maximize investments in themselves and their offspring.

7:50–8:10 pm

Raymundo Cervantes, Psychology
Personality, Social, and Emotional Factors Predicting Anxiety and Depression in Adolescents
Faculty Mentor: Giacomo Bono, Psychology

Depression is a leading cause of poor physical health, disability, and suicide. Adolescents in the US suffer rising rates of depression and anxiety. The current research investigates predictors of anxiety and depression in adolescents. Personality factors linked to anxiety and depression in teenagers are self and emotion regulation. Other factors linked to reduced anxiety and depression are hope and self-esteem. In terms of emotional factors, affective wellbeing is linked to decreased depression and anxiety. Furthermore, social functioning is vital during adolescence, given the emotional and physical
changes during this period. Methodology: This research includes two studies and hypothesizes that self-regulation, emotion regulation, affective wellbeing, hope and self-esteem will be negatively associated with symptoms of anxiety and depression. Participants were demographically diverse adolescents in middle/high school (grades 6-12) drawn from a larger study of student wellbeing (not reported here). The sample for Study 1 was smaller (N = 185) than for Study 2 (N= 900). Both studies examine predictors of anxiety and depression in adolescents. However, the second examines if any factors predict changes in symptoms longitudinally and explores gender and ethnic differences. Results and Discussion: Overall, Study 1 found that anxiety and depression were significantly correlated, as expected, with positive affect, negative affect, emotion regulation, self-regulation, hope, and perceived social support. Initial analyses for Study 2 revealed that negative affect predicted decreases in anxiety and depression symptoms more strongly than positive affect. Also, intentional self-regulation predicted decreases in both anxiety and depression. Finally, hope predicted increases in anxiety. To better understand these relationships, this paper presents these findings and explore gender and ethnic differences. Conclusion: This research advances understanding of the personality, emotional, social factors that contribute to anxiety and depression symptoms for a wide variety of adolescents. Implications for better supporting mental health in adolescents will be discussed.

8:10–8:30 pm

Hawk McFadzen, Sociology
How a Campus Farm Can Contribute to the Ecological Model of Campus Health
Faculty Mentor: Jenney Hall, Environmental Studies

As studies in public health increasingly focus on university campuses, an emerging trend indicates that many places of higher learning are lacking in supporting the health of their communities. When discussing communities, the discipline is looking at the student body primarily. A campus' ecological model is made up of five spheres of influence: public policy, Community Factors, Institutional Factors, Interpersonal Processes and Primary Groups, and Intrapersonal. This research supports the claim that the implementation of an urban farm operation on the California State University, Dominguez Hills campus can improve all spheres of the ecological model of campus health. Through our efforts to gauge student support for a campus farm, the Farm Club developed and distributed a survey both on paper and online. Our research team received feedback from n=112 respondents out of a student body of roughly 14,500 students over the course of two months, and the responses were inputted into SPSS. We analyzed the quantitative and qualitative responses in order to understand what the students are truly interested in seeing on the farm. We were surprised to learn that there is an impressive amount of interest among respondents for farm-based, formal and informal classes that teach about life skills, farm management, and the sciences of plant biology. When visualizing these responses through the lens of an ecological approach to our campus’ community health, we realized that the farm can benefit the student body on several levels. A similar study on faculty interest in using the farm as a teaching tool has similar preliminary results.

8:30–8:50 pm

Jeremy Pollack, Negotiation, Conflict Resolution, and Peacebuilding
Clothes Makes the Negotiator: Markers of Groups Identify Affect Perception of Willingness to Negotiate
Faculty Mentor: Nancy Erbe, Negotiation, Conflict Resolution, and Peacebuilding

Visible displays of social identity, such as fashion, tattoos, and other group affiliation markers, are common features of social life, as they can be consciously or unconsciously utilized by individuals to a) help anchor one’s self-concept with regard to their social ingroups and b) signal their commitment to the group to both other members of the ingroup as well as to members of the out-group.
Considerable research has shown a positive relationship between commitment to social identity and conflict, as well as a negative relationship between ingroup commitment and open-mindedness and willingness to negotiate. In the presented research, 356 U.S.-based individuals participated in a between-groups online study. Participants first read a vignette describing a negotiation situation with an opposing party’s representative. Participants were placed in one of three conditions, each with the representative visualized to be signaling ingroup commitment, operationalized as wearable attire. Participants were then asked a series of questions indicating their perception of the representative’s willingness to negotiate and open-mindedness. The study found some significant effects of condition and general trends supporting the hypothesis regarding willingness to negotiation; however, no effects were found on perceptions of open-mindedness. Implications for future research are discussed, as well as broader impacts of such a research direction.
George Lopez, Biology

*Developing a stem cell therapy for Mucopolysaccharidosis type III B using CRISPR/Cas9 technology*

Faculty Mentor: Michelina Iacovino, Pediatrics division, Harbor-UCLA

1 in 70,000 children are born with Mucopolysaccharidosis disease type III (MPS III), also known as Sanfilippo syndrome, a rare autosomal recessive lysosomal storage disease. These children have a mutation in N-acetyl-alpha-glucosaminidase (NAGLU) gene, one of the many enzymes needed to break down a glycosaminoglycan, heparan sulfate. An accumulation of heparan sulfate in the lysosome leads to a broad range of neurodegeneration disorders, eventually leaving the affected individual in a vegetative state until death. Currently, there is no cure for MPS III, and the limiting treatments available have demonstrated poor results. We are developing a stem cell therapy treatment for MPS III B patients. We are testing the proof of concept to correct Naglu mutation using CRISPR Cas9 system. We have chosen this approach because we can specifically target NAGLU mutation, it is very efficient and will not require integration of foreign DNA. Here we report five guide RNAs that can cause breaks in Exon 1 of Naglu. WT mouse iPSC were transduced with Cas9 plasmid (WT or Nickase) with varying gRNA insertions to determine which gRNA or combination produced breaks that are more efficient. Validation of CAS9 cut was performed with T7 endonuclease, restriction enzyme digestion and by DNA sequencing. We are currently working on creating a DNA template for homologous recombination consisting of NAGLU or NAGLU-IGF2 cDNA to be inserted downstream of NAGLU promoter, to be used in combination with the Cas9 endonuclease and gRNA. Corrected cells will be differentiated into neuronal stem cells and transplanted in Naglu -/- animal to evaluate the efficiency of the cells to deliver the missing enzyme.

Anthony Caballero, Biology

*The effects in an ammonium addition on bacterial succession and the nitrification process in a newly established low complexity (no fish, no plant) aquaponics system*

Faculty Mentor: Adriane Jones, Biology

Aquaponics systems are semi closed ecosystems in which fish input nitrogen as ammonia waste products, bacteria complete the nitrification process (ammonia-nitrite-nitrate) and plants uptake the usable nitrate for growth. Compared to traditional farming aquaponics systems use less fertilizer and have a smaller water footprint. In this study we explored the nitrification process and bacterial communities in a newly installed system, first as low complexity system (no fish and no plants) and second after plants were added. We artificially spiked the system with 15 grams of ammonia chloride and monitored the nitrification process using sensors, colorimetric, and spectrophotometric methods; and the microbial community using extracted chlorophyll, cells counts, and 16S rDNA sequencing over the course of a month. We clearly saw the rapid succession of the nitrification process and drawdown of nitrate once plants were added. Microscopy and chlorophyll concentrations indicated a community shift of the planktonic microbes through time, even though cell counts remained fairly constant. Preliminary results indicate a change in the microbiome over the course of the experiment. The fish tank water contained members of the genus Granulosicoccus spp. (20-30%), Oscillochloris spp. (5-3%) and Phenyllobacterium spp.(1-9%). Bacteria are critical to the optimal functioning of aquaponics systems and understanding their community dynamics is key to enhancing system
The skin is the largest organ in the human body and serves as protection from the outside environment and interacts with other cells, such as touch-sensing neurons that detect touch stimuli. This interaction has not been well studied and the goal of our research is to better understand the biology of skin cells and their development to potentially help in better diagnosis and treatment of skin disease. To do so, we will analyze and study two candidate genes expressed in the skin of zebrafish: Zinc finger NFX1-type containing 1 (znfx1) and Vestigial Like Family Member 1 (vgll1). In situ hybridization is a powerful technique used to visualize and obtain temporal and spatial information about gene expression. This technique helped us detect the expression of znfx1 and vgll1 in the entire zebrafish embryo. Our preliminary data shows expression of znfx1 in the skin at 52 hours post fertilization (hpf) but none at the 20 somite stage (SS) or 72 hpf. Vgll1 shows strong expression in the skin at the 20 SS but little to no expression at 52 hpf and 72 hpf. To study the function of znfx1 and vgll1, we microinjected zebrafish embryos with morpholinos to inhibit their expression. Morpholinos are antisense oligos that can bind to specific mRNA sequences and can inhibit normal RNA splicing or they can inhibit translation. We targeted two different splicing sites for znfx1 which were the exon-intron boundary of Exon 2 and the intron-exon boundary of Exon 3. RT-PCR results show that the morpholinos caused a partial knockdown of znfx1. We are currently quantifying our data and plan on targeting the translation sites of znfx1 and vgll1 in transgenic fish lines and using confocal imaging to document the effects their inhibition will have on early skin development.
Evening Session: 6:00 pm – 8:50 pm

6:00–6:20 pm

**Colleen Curry, Caitlin Allen, Erin Farber, Occupational Therapy**

*Transitions into housing: Shifts in time use for formerly homeless veterans*

Faculty Mentor: Claudia Peyton, Occupational Therapy

This qualitative study uses narrative inquiry to identify positive time use habits that may enable formerly homeless veterans to successfully obtain and remain in stable housing. Upon returning from military service, United States veterans face an array of challenges that can hinder their successful reintegration into civilian life. Veterans are subsequently at a greater risk for homelessness than other adults (Tsai & Rosenheck, 2015). Obtaining housing does not necessarily mean an individual will not experience homelessness again. This study’s focus on shifts in daily use of time will hopefully illuminate strategies and resources that may help other individuals in this population make similar transitions in the future. Data was obtained through qualitative interviews with five participants. All were male veterans of the Vietnam War era, currently in their fifties and sixties. Each participant reported a significant change in time use between their period of homelessness and their current living situation in stable housing. Five major areas of time use differences emerged from interview data: access to basic physical needs and Activities of Daily Living, routines and leisure activities, social and family relationships, roles and identity, and environmental factors.

6:20–6:40 pm

**Rebecca Moss, Brittany Schornstein, Meenely Nazarian, Occupational Therapy**

*Exploring the Perceptions of Fatigue Held by Individuals Living with Multiple Sclerosis: A Phenomenological Approach*

Faculty Mentor: Claudia Peyton, Occupational Therapy

A substantial percentage of individuals living with Multiple Sclerosis (MS) experience fatigue as a symptom. The experience of fatigue varies from person to person and can significantly limit many aspects of an individual’s life. This debilitating symptom is often misunderstood and there remains a challenge to treat MS-fatigue due to its subjectivity, lack of a single cause, and insufficiency of reliable outcome measures. The present phenomenological study explored the lived experiences of MS-fatigue by examining how fatigue affects the daily occupations and roles of seven individuals living with MS through individual semi-structured interviews. Seven major themes emerged from the data analysis: frustrations with MS-fatigue, loss of occupational participation or engagement, changes in social roles, loss of control and change in identity, lack of acknowledgment of MS fatigue in healthcare, challenges with self-management, and perseverance through MS-fatigue. Results suggest that there remains a profound lack of acknowledgment of MS-fatigue within the healthcare system and most individuals manage through self-care strategies. Despite perseverance through fatigue, participants also expressed changes in their daily occupations, roles, and identity from MS-fatigue. Results suggest that individuals with MS-fatigue need continued physical and emotional support in all areas of their lives. Occupational therapy interventions can particularly benefit individuals with MS-fatigue due to its holistic and client-centered nature. Future research should further investigate how individuals differentiate between MS-related fatigue and pain and whether or not there are any discrepancies in experience of fatigue between males and females.

6:40–7:00 pm
Young adult cancer survivors, defined as individuals diagnosed with cancer between the ages of 18-35, are underrepresented in the cancer literature. There is a lack of research available for this population with regards to survivorship medical care, how healthcare providers can assist this population, and how young adults cope with the long-term physical and psychological effects of treatment. The purpose of this qualitative multiple case study is to understand and describe how young adult cancer survivors and their loved ones experience and cope with the aftermath of cancer treatment. Seven adult participants were included in the study. The participants were either adults who were diagnosed with cancer between the ages of 18-35 or a loved one of a young adult cancer survivor. Data were collected using two, face to face, sixty minute semi-structured interviews with each participant. All interviews were audio recorded and transcribed verbatim. Each researcher analyzed the transcriptions and the data were triangulated to verify the fidelity of each researcher’s interpretations. Seven themes emerged during data analysis. These include: a greater need for peer support, better access to mental health services, developmental delay, a different outlook on life, positive reflection, how cancer changed the lives of their loved ones, and the unique experience of having cancer as a young adult. Young adult cancer survivors need more services than are currently available to them. However, despite the hardships of treatment, they come out with a more positive outlook on life and a changed perspective. This experience also affects their loved ones who support them through this process. Directions for future research include exploring the experience and specific needs of loved ones caring for a young adult cancer survivor and how occupational therapy can best address the unique needs of this population in the future.

7:00–7:20 pm

Jamila Dizon, Health Science

Self-Esteem & Health

Faculty Mentor: Enrique Ortega, Health Science

Background: In primarily US populations, past research has found higher rates of binge eating disorders among college women to be commonly associated with low self-esteem. There remains a need to investigate these associations among other populations in order to determine external validity. Methods: The sample consisted of 472 Italian and Dutch adolescents and young adults (49.8% females and 50.2% males), ages 15-24 years old (mean age= 16.91(S.D. = 1.22)). The participants were representative of the population of adolescents attending high school and college students in European countries. A Pearson R bivariate correlation test was used to analyze the association between eating disorders and self-esteem for this cross-sectional study design. Binge eating was identified as what they felt in regards to self-concept and self-worthiness. Self-esteem was identified as self-reported frequency of eating disorders. We used an adaptation of a Binge Eating Scale (BES) questionnaire. Results: Contradictory to previous research in other populations, Italian and Dutch teens reported low levels of eating disorders with high levels of self-esteem. This finding shows that eating disorders and low self-esteem are not associated in these European countries. Conclusion: While a number of investigations have indicated weak, negative correlations between eating disorders and self-esteem for this cross-sectional study design. Binge eating was identified as what they felt in regards to self-concept and self-worthiness. Self-esteem was identified as self-reported frequency of eating disorders. We used an adaptation of a Binge Eating Scale (BES) questionnaire. Results: Contradictory to previous research in other populations, Italian and Dutch teens reported low levels of eating disorders with high levels of self-esteem. This finding shows that eating disorders and low self-esteem are not associated in these European countries. Conclusion: While a number of investigations have indicated weak, negative correlations between eating disorders and self-esteem, these results suggested no statistical significance or negative associations for Italians and Dutch young adults. The inclusion of only women was limiting the generalizability of the results to men. Therefore, gender and geographical location needs to be considered in this topic of study. The use of a cross sectional design does not allow for the examination of causal relationships. Possible implications of these findings will be discussed.
Issue statement: Existing literature on Rett syndrome primarily focuses on biomedical considerations and biological causes or genetic research surrounding Rett syndrome. However, few studies look at the lived experience of the primary caregivers. Purpose: To investigate how the responsibility of managing pain in a child with Rett syndrome affects the primary caregiver. Although it is predicted that minority populations will outnumber the non-Hispanic Caucasian population in the future, research shows minorities receive lower levels of healthcare services. Many of these minorities have healthcare coverage under government funded healthcare programs, such as Medicaid. However, being covered under such healthcare programs may limit the kinds of services they receive, including occupational therapy. Occupational therapists are in a position to aid such clients. The purpose of this study was to understand how and why occupational therapists support minority clients receiving care under California’s Medicaid program, also known as Medi-Cal. This qualitative, multiple case study examined views held by seven licensed occupational therapists that work in facilities that provide occupational therapy services paid for by the Medi-Cal program. This multiple case design utilized semi-structured interviews that were audio recorded and transcribed verbatim, and analyzed for identification of patterns, codes, and common themes. A within-case analysis and a cross-case analysis were conducted. Results indicate that occupational therapists work to provide culturally competent and altruistic care, although limited by reimbursement caps, bureaucratic difficulties, and lack of prior academic preparation. Future research may focus on occupational therapists who are part of minorities themselves and how they provide care, shedding light onto how or what minority occupational therapists can do to make their sessions and clients feel more at ease. Possible future research can also focus on how occupational therapists learn to navigate the world of third party reimbursement in order to provide better and more comprehensive services to minority clients who often do not know how to advocate for themselves.

Introduction: Life direction and occupational choice are concepts that may guide researchers in understanding the motivations for enlisting in the military. These life-changing decisions are part of a unique process influenced by many personal factors that include childhood upbringing, socioeconomic status, emotional stability, internal control beliefs, adaptive personality, and a sense of self-efficacy. Purpose: To explore and better understand the reasons veterans enlist in the military. Method: Through the use of a qualitative narrative approach, the study explored the early life factors that motivated veterans decisions for enlisting in the military. Storytelling provided a means for veterans to unpack the meaning of their life experiences, producing a wealth of rich data for researchers. Results: All participants reported instances of trauma in their childhood, challenges in school and a lack of occupational choice prior to enlistment. Interestingly, there was a common theme among our veterans with difficulty reintegrating into civilian life due to a lack of occupational choice. Most of the participants also reported some form of mental health issue that affected their
quality of life. Conclusion: Veterans enlistment and post military experiences are unique and provide rich information to advance knowledge of the occupational choice process. A program addressing the unique challenges faced by veterans could be designed and implemented to help with this transition process.

8:10–8:30 pm

**Katherine Simon, Thao Thai, Occupational Therapy**  
*A Photovoice Study Exploring Falls Among Older Adults*  
Faculty Mentor: Claudia Peyton, Occupational Therapy

Falls are a common occurrence for older adults that can severely impact a person’s health and disrupt their routine and sense of identity. Falls are complex and best understood by considering a person’s health along with environmental and social circumstances. Falls should be further assessed temporally for both immediate effects and for long term consequences. Photovoice was selected as the qualitative method to provide eight older adults the opportunity to describe their experience of falls through photos and stories of their natural home and community environment. Photovoice is an action research method that powerfully illuminates participants’ stories in ways that can galvanize communities to better care for those who are often marginalized or overlooked. This particular study was unique because the Photovoice discussion was conducted both privately and also within a small social book club gathering of close friends who had known each other for as long as four decades. Utilizing a safe and familial setting elicited highly personal narratives which exposed the wide-ranging issues confronted after falls along with the participants’ unique responses. Another way that this study was unique is because participants shared about both recent falls as well as falls that occurred decades ago. Considering these longer-duration narratives revealed how some results emerged quite gradually. Environmental, personal, and social categories of results were presented as pertinent examples that can be considered by health providers, community representatives, and the general public.

8:30–8:50 pm

**Amanda Rogers, Graduate Nursing**  
*Reducing Door to Balloon Times in STEMI Patients*  
Faculty Mentor: Lauren Outland, Graduate Nursing

Purpose: The study is a quality improvement project directed at decreasing door-to-balloon times in patients who present to the Emergency Room with a STEMI. Statement of Problem: According to the CDC, “About 610,000 people die of heart disease in the United States every year—that’s 1 in every 4 deaths…and is the leading cause of death for men and women.” (CDC, 2015) Early recognition and treatment of people who have heart attacks decreases mortality rates. The American Heart Association (AHA) recommends that fibrinolytic therapy be provided to patients within 30 minutes of first medical contact and primary PCI be provided within 90 minutes for patients presenting with a STEMI. Data shows that many patients do not meet the recommended times suggested by the AHA. One of the goals for Healthy People 2020 is to increase the amount of eligible patients receiving PCI within 90 minutes of hospital arrival. Method to Address Problem: For the proposed study, the Donabedian’s theoretical framework was applied to evaluate current practices and implement new procedures regarding STEMI patients. This framework is applicable to the proposed research study since the framework works to improve quality of care by dividing health services into three fundamental parts: structure, process, and outcomes. (Polit & Beck, 2008). For the research study, I will utilize a multidisciplinary team approach to look at the processes in place for decreasing time delays in artery opening therapy for STEMI patients. This will be accomplished by modifying existing policies and procedures in place and training staff on the new practices. I will focus my interventions
on the staff in the Emergency Room and Catheterization Lab (Cath-lab). By continually evaluating and giving feedback to staff as well as in the moment feedback from staff regarding what is working and what areas we still need to modify. Some modifications we will implement into our practices would be to have at least two cath-lab staff in the hospital at all times, allowing Emergency Room Physicians to activate the cath lab without cardiology consult and to have central ECG monitoring on all patients in the ER who trigger a cardiac event. Description of Innovation: Literature reviews suggesting evidence-based strategies to reduce door-to-balloon times were reviewed and incorporated into the interventions outlined. Research has proven that central monitoring or ECG monitors, ER physicians ability to activate the catheterization lab (cath lab), and at least two cath lab staff in hospital at all times are strategies to reduce PCI times in patients. Implications for Research: This study will prove these three interventions will reduce PCI times in patients, which will directly impact patient mortality. Supporting research has been identified and outlined and evidence supporting these interventions.
Lambda-Proton elastic scattering offers multiple insights on problems in nuclear physics. SU(3)-flavor symmetry implies a close agreement between the Lambda-proton and proton-proton scattering cross sections. The Lambda-Proton elastic scattering cross section can also illuminate the structure of neutron stars. A data-mining project was started using CLAS data taken to look for exotic quark matter with a high-energy photon beam on a long liquid hydrogen target. A Lambda produced in a process such as gamma p→K+ Lambda can interact with a second proton inside the target before either decaying or leaving the target. The good angular acceptance and momentum resolution of CLAS make it well-suited for this type of analysis, even though it was not designed for a measurement such as this. The scattered Lambda can be found in the pi-proton invariant mass. The four-vector of the initial Lambda is then reconstructed in the process Xp→Lambda p, which shows a strong peak at the Lambda mass with roughly twice the number of events as the existing world data sample. This observation opens up the possibility of other measurements using secondary beams of short-lived particles. This talk will discuss the current status of the analysis, and our plans for future work on this project.

The cross section for Lambda-Proton elastic scattering is complicated. The cross section formula is well-known, and depends on the numbers of detected events, beam particles, and target particles, the acceptance, and the detector and analysis efficiencies. For Lambda-Proton elastic scattering, the beam particle is a secondary particle with a short mean life, complicating this calculation. This study made use of the CLAS simulation program GSIM, which includes a complete description of the CLAS detector. The first step is to simulate the energy and angular spectrum of the beam Lambda. Also, the Lambda's short mean life makes it necessary to study the effect of its decay on the luminosity. The energy and angular spectrum of the beam Lambda is simulated with the process gamma p→K+ Lambda. Using this energy and angular spectrum, we then determine the luminosity of our Lambda-Proton measurement by generating Lambdas based upon the simulated results, with a second pass of the simulation. We can then determine the geometrical acceptance for the Lambda-Proton elastic scattering process with a third pass of the simulation. This talk will discuss the status of the simulation project, and will present the initial results of the Lambda spectrum simulation.

Currently, nucleants for proteins are well-known. However, the nucleants for small molecules remain
unknown. For more than three decades, antifreeze proteins and glycoproteins (AF(G)Ps) have been commonly used as inhibitors for crystals. This inhibition of the growth and recrystallization of crystals of AFPs has been generally limited to ice, amino acids, inorganic salts, carbohydrates, and benzene ring containing compounds. Most recently, we have found that AFPs can work as nucleants for Thymidine- a nucleoside. The induced crystals are large enough for effective use in x-ray diffraction. In order to induce crystals, we created aqueous solutions and used a slow evaporation process at room temperature. The size ratio between the two is as follows: 1 thymidine to a $10^{-6}$ antifreeze protein. Without the AFPs, the crystals grew after 10 days, while with the proteins it took 4-5 days. We used AFPs, such as DAFP1, Type I, Type III, and BSA with varying effects in size, shape, and amount of nuclei. Within the pharmaceutical industry, stereochemistry is crucial. Due to the cost and amount of energy it takes to separate the L and D determinations of crystals, companies sell racemic mixtures. In nucleosides, only the L form manifests. We are exploring whether the proteins can recognize the difference between stereoisomer. Additionally, efficient control of size, shape, and time for crystallization suggests even further applications in food and manufacturing (resins). Being a deoxyribonucleoside, Thymidine is only one of four. Future work would be in researching AFP compatibility with the others.

7:00–7:20 pm

Justin Hathaway, Chemistry
_Maker’s Electrochemistry: Building a Low-Cost Potentiostat for Cyclist Voltammetry_
Faculty Mentor: John Price, Physics

Cyclic voltammetry is a potentiometric method that is useful for studying electrochemical reactions that create currents. The technique can be used to quantify target analytes, discover reaction kinetics, and elucidate reaction mechanisms. The instrument used for cyclic voltammetry experiments is a potentiostat, which linearly varies an electrode potential over a specific range at a specific rate, while monitoring the current that develops. Commercially, potentiostats and some variation of voltammetry or chronoamperometry are the foundation of myriad chemical sensors such as glucose sensors, on-chip protein biosensors, and gas sensors. Even though extremely useful in biomedical and industrial hygiene applications, little is said of cyclic voltammetry or potentiostats in the undergraduate chemistry laboratory curriculum. One of the reasons for this is that cyclic voltammetry measurements can be tedious and unforgiving. Another reason is that the measurement equipment can be very expensive, with the cheapest laboratory potentiostat retailing for several thousand dollars. Our research group has successfully developed a very low cost potentiostat system assembled from the Teensy USB development microprocessor and commercially available electronic components. This presentation describes the resulting potentiostat kit, its response to benchmark electroanalytical chemistry experiments, and plans for the next phase of incorporating this student-built measurement system into an undergraduate chemistry lab experiment. The ultimate goal of this project is to provide an opportunity for chemistry students to become more familiar with both electrochemistry and electronics/computer interfacing.

7:20–7:30 pm  COFFEE BREAK

7:30–7:50 pm

Adrianna Perez, Physics
_Star Formation in Simulated Merging Galaxies_
Faculty Mentor: John Price, Physics

Galaxy interactions and mergers are efficient mechanisms to birth stars at rates that are significantly higher than found in our Milky Way galaxy. The Kennicut-Schmidt (KS) relation is an empirical
relationship between the star-forming rate and gas surface densities of galaxies (Schmidt 1959; Kennicutt 1998). Although most galaxies follow the KS relation, the high levels of star formation in galaxy mergers places them outside of this otherwise tight relationship. The goal of this research is to analyze gas content and star formation of simulated merging galaxies. Our work utilizes the Feedback In Realistic Environments (FIRE) model (Hopkins et al., 2014). The FIRE project is a high-resolution cosmological simulation that resolves star-forming regions and incorporates stellar feedback in a physically realistic way. In this work, we have noticed a significant increase in the star formation rate at first and second passage, when the two central black holes of each galaxy approach one other. Next, we will analyze spatially resolved star-forming regions over the course of the interacting system. Then, we can study when and how the rates that gas converts into stars deviate from the standard KS. These analyses will provide important insights into the physical mechanisms that regulate star formation of isolated and merging galaxies and valuable theoretical predictions that can be used to compare with current and future observations from ALMA or the James Webb Space Telescope.

7:50–8:10 pm

Alexander Wittmond, Mathematics
Partition Problems and a Pattern of Vertical Sums
Faculty Mentor: Serban Raianu, Mathematics

We give a possible explanation for the mystery of a missing number in the statement of a problem that asks for the non-negative integers to be partitioned into three subsets. We interpret the missing number as one of the clues that can lead to a more standard solution to the problem, using only congruence modulo five.

8:10-8:30 pm

Nadia Hirbawi, Chemistry and Biochemistry
Synthesis of Redox Active 2, 4, 6-Tris(p-ferrocenylanilino)-1, 3, 5-triazine and its Host-Guest Properties with Cucurbit[n]uril (n=7,8)
Faculty Mentor: Arumugam Thangavel, Chemistry and Biochemistry

Synthesis of Redox Active 2,4,6-Tris(p-ferrocenylanilino)-1,3,5-triazine and its Host-Guest Properties with Cucurbit[n]uril (n=7,8) Redox active compounds play a vital role in nature and in artificial systems. In nature, many enzymes regulate their activities through redox process. In artificial system, redox active compounds have been used in batteries, solar cells, sensors, to name a few. Many redox active compounds have been reported. Among them, Ferrocene has attracted more attention because of its low oxidation potential as well as its reversible one electron transfer process. It is an organometallic complex with an iron (II) is sandwiched between two cyclopentadienyl rings. In our aim to probe the molecular recognition (Host-Guest) and its role on redox activity, the 2,4,6-Tris(p-ferrocenylanilino)-1,3,5-triazine (3FC-Tzn) was synthesized. The 3FC-Tzn is a star shaped molecule with three repeating units of p-Ferrocenylaniline groups connected by central triazine core. It is synthesized from commercially available Ferrocene and cyanuric chloride; and was characterized by NMR, Mass spec, and IR, Uv-Vis. The 3FC-Tzn is used as a guest to form a Host-Guest complex with cucurbit[n]uril. The cucurbit[n]uril is a macrocyclic molecule and acts as host to form an intercalated Host-Guest complex with neutral and cationic molecule. In this presentation synthesis, characterizations, and Host-Guest properties of 3FC-TZN will be discussed.

8:30-8:50 pm

Vuong Tran, Mathematics
Consider the following problem involving \( r \) balls and \( n \) urns: we seek to compute the probability that no box contains more than one ball if the \( r \) balls are randomly tossed into the \( n \) boxes. We distinguish between the homogenous case where all boxes have the same probabilities versus the more general inhomogeneous case. We will find general formulas and compare the two cases in several settings. If there are \( n = 365 \) boxes and the balls are considered to be birthdays of \( r \) random people, this probability corresponds to the change that at least two people in the group having the same birthday. We will look at further applications such as the protection of privacy in public data sets, and also to so-called birthday attacks of cryptographic hashing functions.
Rebecca Cook, Orthotics and Prosthetics

*Exercise and Stress Levels in ABC Certified Orthotists and Prosthetists*

Faculty Mentor: Julie Werner, Orthotics and Prosthetics

This study investigated the relationship between regular exercise and stress levels among American Board-Certified Orthotists and Prosthetists (CPOs). Evidence supports increased quality of life and prevention of various medical conditions with regular exercise (Wallace et al., 2009). It is imperative to understand the impact stress has in the workplace, as chronic work-related stress and excessive workloads lead to a high occurrence of burnout and stress related concerns (Wallace et al., 2009). Participants were recruited from personally acquainted CPOs who provided their emails as a resource while completing a Masters in Prosthetics and Orthotics. A snowball recruitment method was then used by asking CPOs to forward it to other practitioners who might be interested in participating. Participants who exercised and those who did not were asked to complete a confidential survey on stress levels which was sent to them via email. The group that exercised, defined as those who participate in at least 150 minutes of moderate intensity activity scored an average of 14.71 and those who did not scored an average 16.444 on the Perceived Stress Scale Respectively. With a p-value of 0.56 further studies with larger sample are needed to further explore the relationship between stress levels and exercise among practitioners.

Gregory Grabe, Orthotics and Prosthetics

*Flip Flop Ambulation*

Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Flip flop style sandals may be comfortable in some climates, or fashionable to some individuals, but does walking in them change a person’s gait significantly? This study will observe and report findings on ambulation wearing flip flop style sandals and compare it to barefoot gait of the same participants. Temporal spatial data such as duration of each trial and stride length was recorded. Average measurements for each trial were analyzed and compared. Participants were recruited from California State University Dominguez Hills MSO&P program. They were asked to complete two ambulatory trials in a gait lab setting. On average people with flip flops had an average stride length with an average of 67.64 cm and a trial duration of 36.06 and people without flip flops has an average stride length of 66.16 and a trial duration of 34.78. With a p value of 0.79, more research should be collected to obtain a more conclusive understanding of flip flops impact on gait.

Ian Fraser, History

*Comics and the Civil Rights*

Faculty Mentor: Andrea Johnson, History

My project will attempt to show how comic books reflected the changing perceptions about race and gender during the Civil Rights Movement, as well as how various comic book characters became representatives of the respective race and/or gender. It will also to show how comic books and other forms of pop culture prove that race and gender roles were under constant negotiation as a result of people’s actions and beliefs. By looking at characters like Black Panther I will show how the emerging ideas about a new militant manhood and pride of race affected the African American community. I will also look at how the Black Panther showed the various challenges facing the African American communities like racism and stereotypes. By looking at Wonder Woman we will see how the ideas of feminism in the United States formed and was developed. We will see how Wonder Woman represented the new ideas of woman’s equality and sexuality.
Chris Stokesbary, Orthotics and Prosthetics

_Q Angle Relationship to Step Length_

Faculty Mentor: Julie Werner, Orthotics and Prosthetics

This study is going determine if there is an association between q angle with step length. Q angle is the angle of the thigh (femur) and its connection to the shin (tibia). Step length is the distance between one toe leaving the ground (toe off), and that same heel contacting the ground (heel contact). There is a step length for both feet, during ambulation. Step length can be predicted by leg length; therefore, leg length was controlled for using a multiple regression. The importance of this study is to determine if q angle can predict step length in order infer risk for potential injuries associated with abnormal q angle. Our results were not significant in supporting a relationship between q angle and step length. We found q angle and leg length to not be significant predictors of step length. Future research should analyze a larger sample.

Fann Lim, Orthotics and Prosthetics

_Relationship between Cranial Helmet Orthosis Intervention Age and Duration for Patients with Plagiocephaly_

Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Plagiocephaly is the asymmetrical flattening of a baby’s head resulting in an oblique presentation. Modern treatment of plagiocephaly uses cranial remolding helmet orthosis. It is hypothesized that intervention at an earlier age will result in a shorter treatment completion time. Subjects with infants that underwent said treatment were recruited in an orthotic clinic. The infants’ age, start of treatment date and end of treatment date were collected, and the data was analyzed using ANOVA. Data was collected from 27 infants aged between 3 months to 12 months. The results showed that there was no significant difference between the two groups of infants who started treatment when aged <3 months to 6 months and <6 months to 9 months, but treatment time was significantly longer when infants are aged <9 months to 12 months. The detailed results from this study differ slightly from the results from other studies of the same topic, but the overall findings are similar in that earlier intervention will result in a shorter treatment completion time. Limitations in this study include the lack of number of samples, not accounting for parent or guardian compliance during treatment period, and not including other outcomes such as correction rate.

Samuel Legorreta, Orthotics and Prosthetics

_Do Placebo Insoles reduce Lower Back Pain?_

Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Background: Low Back Pain (LBP) causes more disability than any other medical condition worldwide. One of the possible causes of LBP, is walking long distances, which is common in different jobs. Insoles are typically prescribed for patients with LBP to influence foot stability and to normalize the kinetic chain. Placebo is being an object of treatment, able to produce positive effects and spontaneous fluctuations in LBP. Objectives: Investigate in adults who stand for long periods of time at their jobs, if placebo insoles compared to regular shoe insoles, reduce low back pain. Method and Materials: following ethical approval, participants (n:8) adults (women and men) whose jobs include long standing periods of time (>6 hours/day), were evaluated with the Oswestry Low Back Pain Disability Questionnaire during first interview. Placebo insoles made of 1/16’ closed cell material was placed in 4 participants and regular shoe insoles were used in the rest of participants for 2 weeks, after this period of time same questionnaire was used in all participants with the finality to compare results. Results: a comparison of percentage according to the Oswestry Low Back Pain questionnaire was performed between the placebo insole group and the regular insole group in the first interview, they do not demonstrate statistical changes (P: 0.268144). After a 2-week period of
time, the same questionnaire was accomplished in both groups; in the placebo group only one of the participants reported lower scores, but it wasn’t statistically significant for the purpose of the study (P: 0.377557). Conclusions: The results of this study suggest that time and sample size are valuable resources, otherwise aren’t going to show changes in low back pain in the different groups of investigation.

Iris Nakashima, Biology
Dependency of Aggressive Breast Cancer on Autophagy for Survival
Faculty Mentor: Shehla Pervin, Endocrinology, Charles Drew University

Despite intense efforts breast cancer remains a major threat to women of all ages and race. Major challenges are heterogeneous cell types, their plasticity and resistance to available treatment options, tumor recurrence and metastasis. Surprisingly, aggressive breast cancers become addicted to key signaling pathways for their survival. Our lab has found that an aggressive triple negative (TN) subtype of breast cancer, frequently diagnosed in young African American (AA) women, express high levels of Bax, a pro-apoptotic molecule. We also found dependency of these cells on autophagy, which removes defective cellular organelles to increase their survival. We examined whether the inhibition of autophagy via chloroquine diphosphate salt treatment in TN breast cancers (HCC70, MDA-MB-468, and HCC1806) increased apoptosis, a programmed cell death. Autophagy levels as well as the stability of the key players were compared in cancer cells and mammary epithelial cells (MEC). Autophagy and apoptosis was also examined by inhibition of proliferation and exposure to nitrosative stress. Our data indicated that inhibition of autophagy increased apoptosis, which was determined by Bax cleavage by immuno blot analysis and fragmentation of chromosomal DNA by APO-BRDU kit. We also observed that chloroquine treatment reduced the levels of autophagy players, ATG7 and BCI2, as detected by immuno blot analysis. We also found autophagy was higher in TN breast cancer cells when compared to MEC. The stability of the autophagy and apoptotic players were comparable in the cancer cells but the chloroquine treatment preferentially reduced autophagy players. Inhibition of proliferation and nitrosative stress increased apoptosis and autophagy in these aggressive TN cells. Our results show that AA breast cancer cells were addicted to autophagy for survival and inhibition of autophagy could result in better clinical outcome for these aggressive breast tumors. We also found that autophagy was higher in cancer cell when compared to MECs.

Lizett Gonzalez, Biology
Characterizing of Regulon of SspA in Escherichia coli During Long-Term Stationary Phase
Faculty Mentor: Karin Kram, Biology

In Long-Term Stationary Phase (LTSP) of the Escherichia coli life cycle, cells experience tremendous amounts of stress caused by low nutrient availability, high levels of waste by-products, and a high-pH environment. Advantageous mutations can appear in cells, which are then selected for because the cells are able to survive these conditions. One gene frequently mutated in long-term cultures is the sspA gene. Stringent Starvation Protein A (encoded by sspA), is expressed in order to help cells adapt to stressful environments by affecting expression of other stress-response genes. Previous work has begun to identify all of the genes regulated by SspA throughout LTSP. We used quantitative Polymerase Chain Reaction (qPCR) to confirm the regulation of three genes by SspA. Three types of E. coli cells were grown in Luria-Bertani media and then compared: wild-type (no mutation), null (missing sspA), and point mutant (containing a single nucleotide mutation originally identified after growth in LTSP). We monitored sspA expression along with the expression of cynX (cyanate transporter), hdeA (resistance to low pH) and fliC (flagellin, the major structural component of flagella), each potentially regulated by SspA. Comparing the null strain to the wild type strain, hdeA and fliC genes are upregulated in the null strain, whereas cynX is downregulated in the null strain. These differences are the same when comparing the point mutant strain to the wild-type strain,
indicating that the point mutation may cause a loss of function of SspA. Characterizing the role of
sspA, along with other genes involved in cell survival during LTSP, will lead to an understanding of
how mutations influence adaptation to changing environments.

Alina Skwarcan, Orthotics and Prosthetics
Relationship between Non-Verbal Communication and Patient Satisfaction
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Patient Satisfaction is a way to measure clinical outcomes and the quality of care provided by the
practitioner (Etches, 1994). Those scores can be used to indicate whether a practitioner is providing
the best care. A practitioner can see a variety of patients, but this study looks specifically at cranial
remolding, prosthetic, and orthotic patients. The purpose of this study is to show if patient satisfaction
is effected by the device used. The hypothesis is that the ranking of scores from highest to lowest will
be; prosthetics, cranial remolding helmet, and then orthotics. A survey was used and given to thirty-
six patients at an office in South Bend, IN. The office sees primarily pediatric orthotic patients,
therefore the primary chose of device, orthotic, was indicative of that. The results of this study
showed that prosthetic patients had the lowest scores. Despite that, none of the results were
statistically significant. This in conjunction with the lack of research based evidence indicates more
research is needed to collect more reliable data.

Sydnee Childress, Education
Effective 4th grade math strategies
Faculty Mentor: Edward Curammeng, Teacher Education

This research study was conducted in a fourth grade classroom to gather data and examine what
strategies are most effective for raising students’ interest, participation and scores in math. Math
skills taught during elementary school years are designed to provide the foundational skills students
need to successfully understand concepts introduced continuously. Throughout the study students
were provided with information regarding careers in STEM to display how math is relevant to the real
world. The strategies used to improve the students interest, participation, and scores included
creative and explicit hands on lessons, group collaboration, and daily incentives to keep the students
engaged. Throughout the study, the teacher would guide and scaffold carefully to determine how to
effectively use each strategy in the classroom. All students were well aware of all expectations,
objectives, punishments and rewards. Based on the results of the study students are more likely to
participate while working with others and being able to gain rewards for their work ethic.

Evelinda Parra, Estela Torres, Sociology
The Power of Educational Facilities: Examining the Effects of Interactions
Faculty Mentor: Joanna Perez, Sociology

Among working-class students of color, their educational journey is impacted by their campus
climate. The purpose of this study is to analyze how teachers, staff, classmates, and overall school
environment impacts students’ education and future aspirations. Our research question is, how does
campus climate impact a student’s interactions in educational facilities? Drawing from a qualitative
methodological approach, we spent a combined total of 168 hours at two sites, where we conducted
participant observations and field notes. The sites include the CSUDH Infant/Toddler Development
Center and a Family Learning Center funded by HACLA in the Carmelitos Housing Development. As
students assistants, we collected and coded data. We found four main themes, 1) students’
interaction with teachers, 2) students’ interactions with staff, 3) students’ interaction with classmates,
and 4) students’ perception of the environment and access to resources. While interacting with
teachers, we found that how teachers communicate impacts whether student feel welcomed and
comfortable to ask questions. When there was positive student-teacher relationships, students felt validated and reassured that they could continue their education. When students interact with staff like ourselves, we found that given our own background, students often were more likely to express their concerns to us rather than the teachers. However, we made sure to communicate these concerns to the teacher and together, we would come up with possible solutions. This interaction played an essential role in the student’s positive perception towards educational facilities. When students witnessed positive relationships with teachers and staff, students were more likely to reach out and engage with their classmates. Lastly, we found that educational facilities that provide welcoming spaces, made a deep impact in the students’ ability to feel a sense of belonging and appreciation. Our preliminary findings suggest that campus climate has a deep impact in the lives of students.

Francisco Bautista, Biology
EMP2 alters MHC I Expression in Breast Cancer
Faculty Mentor: Madhuri Wadehra, Pathology

Epithelial membrane protein 2 (EMP2) is a cell surface protein that has been associated with expression of major histocompatibility complex class 1 (MHC). It has been observed that high levels of EMP2 mRNA and protein are present in a number of cancers. Additionally, recent work has shown that EMP2 may play a role in immune cell recognition, potentially by altering MHC expression. Cytotoxic CD8+ T lymphocytes (CTLs) and natural killer (NK) cells lyse tumor cells expressing or lacking MHC I molecules respectively. Here, we ask if EMP2 directly alters MHC expression levels, we look into this question. With the use of flow cytometry and western blotting we observed the relationship between EMP2 and MHC in an EMP2 knockdown model in different cell lines. Early data has demonstrated a 2-fold increase in MHC expression when EMP2 is knocked down in cancer cells. These results suggest that EMP2 may alter tumor immunogenicity by regulation of MHC I expression. Further understanding the relationship between these two proteins can lead to the rise of novel cancer therapeutics.

Gurkiran Singh, Harmon Jeet Singh Brar, Iish Juneja, Computer Science
Authentication and Access Control of IOT Using Lightweight Cryptography
Faculty Mentor: Bin Tang, Computer Science

When it comes to securing any interface connected to the Internet, the more secure the better. In a time where traditional authentication methods can easily be hacked into, it is critical for websites and online devices to be secure. At the same access control ensures only the correct person is given the respective access level to ensure the integrity of the data. More number of people now live in a smart society. The ‘Internet of things’ is an emerging technology that a large number of people are becoming aware of. It is a network of devices connected to the internet. Hence with the growing demand for such devices and in a world where many common devices are online, it is important to be aware of the vulnerabilities and to ensure the correct steps are taken. This paper explores how far we have come with the ‘Internet of things’ and how secure it is. Besides that, it also takes a peak on the most important topic of ‘how secure the devices are which are connected to the Internet’.

Alexis Guidry, Orthotics and Prosthetics
Effective Transtibial Casting Technique for Accurate Anatomical Measurements
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

The purpose of this study is to put one specific classification of residual limb casting techniques to the test with the goal of determining which technique yields a more anatomically correct cast than the others they are being compared to. The characteristic of each technique that is being tested in overall volume of the cast. The hypothesis is that volumes of one or more casting techniques will be
significantly different from the others. The casting technique that yields volumes closest to the
dimensions of the model can be deemed the most appropriate to for anatomical accuracy. 3
California State University at Dominguez Hills Masters of Orthotics and Prosthetics Students each
took three casts, one cast per casting technique, and their measurements were recorded. It was
found that there were no significant difference between any of the casting techniques, and that all
techniques can be appropriately used when casting a persons with a transtibial amputation.

Emily Alumbaugh, Orthotics and Prosthetics
Prosthetic Cosmetic Impact on Mental Health
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Research has shown that limb loss will most likely negatively impact body image. One way for a
clinician to encourage positive body image is by collaborating with the patient on designing a
esthetic cover or graphic designed socket for the prosthetic device. Psychological adjustment
problems including anxiety, depression, and social isolation are common with people that have
undergone leg amputations. The purpose of this study is to investigate how a customer input of
cosmetic design can impact the patient's mental health, specifically depression. The research
subjects were recruited from O&P Group in Whittier, CA. The survey administered was the Center for
Epidemiologic Studies Depression Scale (CESD-R-20). The patients used for the study were over the
age of 18 with a lower limb prosthesis who is able to complete the survey accurately. The location of the
research study took place online at:
https://docs.google.com/forms/d/e/1FAIpQLScFlwfwO4LZvU9u7YUpZosSFNAQ5ki2Ni5sXT2JG5kJS
U2MhpQ/viewform?usp=sf_link. Thirty individuals with lower limb amputations were asked to
participate. Of the thirty, three were recruited for this research study. Among the lower limb
amputation group, there were two males and one female participants. There were no participants that
stated they did not have input on the cosmetic design of their socket, therefore no p value was
calculated. Out of the three participants, two patients were below risk level for depression.

Silvia Gutierrez, Julie Mendoza, Robert Nastav, Giacomo Bono, Psychology
An Examination of Gratitude and Social-Emotional Well-being in Preschoolers
Faculty Mentor: Giacomo Bono, Psychology

Gratitude is an important psychological factor in positive youth development that also has the
potential to improve students’ motivation and well-being (Bono, Froh & Forrett, 2014). Recently, a
curriculum was developed for elementary school children based on gratitude, with results indicating
that children felt more gratitude and well-being (Froh, Bono, et al., 2014). However, efforts to
understand gratitude, much less promote it, in children at younger ages is hampered by the lack of a
psychological measure of gratitude empirically (Bono et al, 2014). This presentation introduces a new
grateful measure for children, ages 3 to 6, that is being developed. It also describes the research to
validate this measure and, if possible, preliminary results. The preschool measure, entitled the Early
Childhood Assessment of Gratitude (ECAG), is an interactive booklet where children make choices in
response to hypothetical benefaction scenarios. The scenarios all involve a common negative event
that preschoolers encounter followed by the help of a peer benefactor. The measure is designed to
assess emotional, verbal and behavioral aspects of gratitude in 3-6 year olds. Data from two
preschools are being collected in the Fall 2017. Prior to data collection all the parents of the children
sought to participate in study provided parental assent, and the children themselves provided verbal
assent. To evaluate the effectiveness of the ECAG two methods are being used: (1) The ECAG will
be administered by investigators before and after a gratitude curriculum (not described here); (2) The
ECAG will be correlated with data collected by teachers using the Devereux Early Childhood
Assessment for Preschoolers (DECA-P2). The DECA-P2 assesses protective factors central to social
and emotional health and resilience and can be used as a screener for behavioral concerns in
children ages 3-6. Conclusions will be made about the benefits of gratitude for early childhood
Jose Garfias, Chemistry and Biochemistry

*Theoretical Study of 3FC-TZN and its Host-Guest interaction in the Determination of Stable Electroactive Materials*

Faculty Mentor: Kenneth Rodriguez, Chemistry and Biochemistry

Reliable theoretical 1H NMR, HOMO, and LUMO is computed for the molecular recognition (Host-Guest) and its role on redox activity, the 2,4,6-Tris(p-ferrocenylanilino)-1,3,5-triazine (3FC-Tzn) with cucurbit[n]uril that has been synthesized experimentally. The Density Functional Theory (DFT) of B3LYP/6-31G* method is used to optimize each molecule and then optimize both structures together using the DFT calculations with the M062X/6-31G* method in the solvent of DMSO. These results are used to compare the computational calculations with the experimentally synthesized Host-Guest. These theoretically calculated values are within a 5% relative error when compared to the experimentally chemical shift. The 3FC-Tzn is a star shaped molecule with three repeating units of p-Ferrocenylaniline groups connected by central triazine core. The 3FC-Tzn is used as a guest to form a Host-Guest complex with cucurbit[n]uril. The cucurbit[n]uril is a macrocyclic molecule and acts as host to form an intercalated Host-Guest complex with neutral and cationic molecule. In artificial system, redox active compounds have been used in batteries, sensors, and solar cells. Such redox active compounds have been known to play an important role in nature and systems that are artificial. Many enzymes regulate their activities through redox process naturally. It has been reported several redox active compounds in the literature. Among them, Ferrocene has attracted more attention because of its low oxidation potential as well as its reversible one electron transfer process. Ferrocene is an organometallic complex with an iron (II) that is sandwiched between two stacked cyclopentadienyl rings. Having been synthesized from commercially available Ferrocene and cyanuric chloride that was characterized by different spectroscopic techniques, such as NMR, Mass Spec, IR, and UV-Vis and compared to reliable computational modeling.

Serina Quintero, Anthropology

*GIS Mapping of Historical Buildings in Downtown Los Angeles (central city)*

Faculty Mentor: Parveen Chhetri, Earth Science and Geograph

The city of Los Angeles, from its humble past as being one the first pueblo in Southern California to today being a bustling city center dominated by high rise buildings, has a deep and rich history that tells the story of urbanization, transition and growth. Part of this history can be seen in the many historical buildings that are spread throughout downtown Los Angeles. These historical buildings have much to offer us in regards to providing historical context and knowledge of Los Angeles history. The purpose of my research was to document the locations of historical buildings built before the turn of the 20th century in the downtown Los Angeles area and more importantly, to gain a better understanding of the historical significance of these buildings and how they are being incorporated into our modern landscape. The research draws upon data obtained from various sources including Los Angeles County GIS department’s website. Additionally, I reviewed existing literature related to the history of Los Angeles in order to get a better understanding of the historical context and significance of each building being document and incorporated into my map. After incorporating data such as the date of completion of the building, the address, the architect, the significance of the building, date the building was added to the national historic registry, and the use of the building today into my GIS geodatabase. Through the creation of an informative and interactive spatial data map the results of my research provide an increased understanding of the locations and significance of the historical buildings located in the downtown area and demonstrates how these buildings are being incorporated into our
modern-day landscape.

Samantha Tsumaki, Chemistry and Biochemistry

*Synthesis and Host-Guest Properties of 1,7-Dimethyl-1,7-diazoniachrysene with Cururbit[n]urils*

Faculty Mentor: Arumugam Thangavel, Chemistry and Biochemistry

Pyridinium based redox active compounds can be found in nature as well as in artificial system. In nature, notable example is NADH to NAD+ where it acts as cofactor for the biological redox process. Many pyridinium compounds such as viologen, 2,7-diazapyrene etc. have been used in redox indicator, sensor to name a few. In order to understand the role of molecular recognition on redox activity, the host-guest complex was selected, in which redox active pyridinium based compound acts a guest and macrocyclic Cucurbituril acts as host. In this study, 1,7-Dimethyl-1,7-diazoniachrysene, was used as guest and cucurbit[n]uril as host. The target compound was synthesized from commercially available 1,5-Diaminonaphthalene and glycerol in strong acidic condition, which forms free base and further quaternization yields the target compound. In this presentation, synthesis, characterization and its interaction with Cucurbituril will be presented.

Daileen Cortez, Biology

*Activation of Proteasome by Inhibiting Autophagy in Corneal Epithelia Cells with Limbal Stem Cell Deficiency*

Faculty Mentor: Fawzia Bardag-Gorce, Pathology and Laboratory Medicine, LABioMed

Previously, failure of UPP (Ubiquitin Proteasome Pathway) was found associated with an activation of autophagy in corneal epithelial cells with limbal stem cell deficiency (LSCD). However, autophagy activation did not remove damaged, aggregated proteins such as keratins (K4 and K13). The present hypothesis proposes that UPP activation might increase the clearance of misfolded proteins including K4 and K13 thus improving corneal epithelial cell function. Rabbits with surgically-induced LSCD were used to quantify the elements of both pathways in corneal epithelial cells (CEC). Rabbit oral mucosa epithelial cells (OMECS) as, similar to conjunctival epithelial cells, are rich in K4 and K13. OMECS were isolated, cultured and treated with proteasome inhibitors and chloroquine to inhibit autophagy. Morphologic analysis of corneal tissue sections showed that both pathways stained positive in normal corneal epithelium. While constitutive proteasome beta subunits B1, B2 and B5 were decreased, autophagy biomarkers – ATG5 and MAPLC3B, were significantly increased in LSCD-CEC. However, despite autophagy up regulation, modified K4 and K13 still deposited and accumulated in LSCD-CEC without clearance. Proteasome inhibition in OMECS also showed a significant increase in ATG12, ATG5 and MAPLC3, confirming our observation that when UPP is defective, autophagy is stimulated. Additionally, when autophagy was inhibited in OMECS using chloroquine, our results showed not only an increase in proteasome chymotrypsin-like activity, but also a significant decrease in unmodified K4 and K13 levels with no keratin high molecular weight deposition. Proteasome activation in the ocular surface could be used to alleviate corneal epithelial cell dysfunction associated with LSCD.

Jesse Medina, Sociology

*The Impact of Abuse on Family Relationships*

Faculty Mentor: Joanna Perez, Sociology
Various forms of abuse impact families. In my research project, I focus on the relationships between abuse (alcohol, physical, and drug) and family. The research question that informs my project is, how does abuse affect the family and the relationships between the family members? The purpose of this research project is to contextualize the experiences of low-income children who witness abuse in their families. As someone who has witnessed various forms of abuse in the family, I use an autoethnography methodological approach, which entails conducting research and critically analyzing the way that larger social forces contextualize my personal experiences. Based on my preliminary research, I found that growing up in families affected by abuse has a negative impact on the physical and emotional well-being of working-class children. Also, I found that some children who witness abuse in their families face developmental issues, experience torn family bonds, and are more susceptible to become abusers as adults. Through these themes, my preliminary findings demonstrate there are many social forces that are involved in understanding the prevalence of abuse in working-class families and the impact abuse has on children.

Valerie Leonard, Biology

_Breeding System Variation in Pale Evening Primrose_

Faculty Mentor: Kathryn Theiss, Biology

Species with large ranges encounter different ecological conditions in different parts of their ranges. We are interested in exploring how breeding system varies across the extensive range of the pale evening primrose (Oenothera pallida ssp. pallida), which extends from Washington to Utah. Our previous research showed that this species is highly variable in terms of breeding system both within and across populations. We expect that fruits that resulted from self-pollinations would have fewer seeds than those that resulted from non self-pollination, which would lead to more variability in seed counts across a population. During the summer of 2017 we collected over 1600 fruits, which contained more than 40,000 seeds, from 12 populations distributed across the complete range of the pale evening primrose. Although the average number of seeds per fruit (~30) was similar across the populations, there were significant differences in variation among populations. We also conducted hand pollinations at two populations to test for differences in breeding system within populations. We had better overall success at our northeastern Idaho site than at our central Idaho site, but found variation in breeding system at both sites. During the summer of 2018 we will grow plants from each of the 12 population in the greenhouse at CSUDH. We will hand pollinate the plants using one of three treatments: a) pollen from the same plant, b) pollen from a different plant in the same population, and c) pollen from a plant from a different population. We will then observe whether the different treatments produce the same amount of fruits and seeds across the different populations.

Bryan Cantero, Chicana/o Studies

_Por Amor a el Beisbal: Reynaldo Santacruz_

Faculty Mentor: Corina Benavides-Lopez, Chicana/o Studies

This research explores how identifying as Chicano contributed to the experiences of Reynaldo Santacruz. This research will also explore the intersection of baseball culture and Chicano/a identity through oral history. I will use critical race theory and community cultural wealth model (Yosso, 2005) to further examine the educational experience of Santacruz as well as his experience as a man of color in baseball. This research also works to challenge the notion that Chicano men do not perform well in higher education by providing insight on issues of race, familial relationships, and financial hardship that contributes to underachievement. The research demonstrates ways that identifying as an athlete helped
Bryan Cantero, Chicana/o Studies  
*Por Amor a el Beisbol: Race, Gender, Educational Success and Sports*  
Faculty Mentor: Corina Benavides-Lopez, Chicana/o Studies

This research explores the intersection of baseball culture and Chicano/a identity through oral history. I apply critical race theory and community cultural wealth models (Yosso, 2005) to further examine the educational experience of, CSUDH alumni, Mr. Reynaldo Santacruz (Class of 1974) as a man of color in baseball. The research demonstrates ways that identifying as an athlete helped him navigate the educational system. This research also works to challenge the notion that Chicano men do not perform well in higher education by providing insight on issues of race, familial relationships, and financial hardship and issue of educational inequality as survived by men of color. The goal of this study is to connect the experience of a CSUDH Chicano alum and the impact playing collegiate baseball had on his personal life and career as an educator.

Kayla Lock, Alex Whittmond, Mathematics  
*Refinement of metrics: Erdos Numbers, a case study*  
Faculty Mentor: Wai Pong, Mathematics

The Erdos numbers of a person is the shortest path distance between the person and the mathematician Paul Erdos in the collaboration graph where there is an edge between two people if they coauthored a paper together. The shortest path distance is a metric on a graph and is easy to compute, however, one may argue that it is inadequate measure of “closeness” between the two authors since, for example, it does not take the number of joint papers between two authors into account. In this project, we introduce the concept of refinement between metrics and study in general how one can refine a given metric. We ended up devising some new metrics that lead to various versions of Erdos numbers. They refine the classical measure of closeness “between” authors.

Leo Osornio, Physics  
*Using Computer Simulations to Aid in Learning about Magnetic Fields Due to Current Carrying Wire*  
Faculty Mentor: Ximena Cid, Physics

Physics education research is a subfield of physics designed to systematically study the teaching and learning of physics. Though the content of physics can be challenging for some students to grasp, other difficulties occur that are not necessarily related to content. This work focuses on understanding the relationship between mental visualization and abstract areas of physics. Our group focuses on creating interactive 3D computer programs to help students improve their understanding of electricity and magnetism. These simulations are designed to reduce the cognitive load by removing the need to create mental representations. I am working on creating a program which depicts how a charged particle behaves in the presence of a magnetic field generated from a current-carrying wire. For this concept, I employed the GlowScript environment using the Javascript language to show how the force acting on the particle is affected by changing the particle location, velocity, and the current in the wire. Often students have trouble visualizing the magnetic field and this can
impede learning of this topic. This presentation will describe the design phase of this work and will provide a preview of our plans to assess the effectiveness of these programs in the introductory physics courses.

**Ashley Aranda, Biology**  
*Pollinators of Asclepias curassavica in Southern California*  
Faculty Mentor: Kathryn Theiss, Biology

In urban environments, native flora and fauna are declining due to habitat loss and the introduction of non-native organisms competing for resources. Milkweeds, including the nonnative Asclepias curassavica (tropical milkweed) could provide a sustainable source of nectar for honey bees, aiding in native and non-native floral diversity. Generalist pollinators, such as Apis mellifera (western honey bee) and Danaus plexippus (western monarch) can provide reproductive success of non-native A. curassavica. I sought to describe the diversity of floral visitors to A. curassavica, evaluate pollinator efficiency of common floral visitors, and determine whether there were nocturnal pollinators of A. curassavica. The main field sites I used to assess my research is composed of an 87-acre garden consisting of 2,500 different plant species, second, a CSUDH native garden with 20 different native species and a residential garden in the city of Carson, California, with nine different native plant species. Data collected on floral visitors between June and December of A. curassavica included visitation duration, along with the number for flowers, umbels, and stems visited. Pollinia (pollen sacs) removal and insertion was observed by individually capturing insects on virgin umbels, counting pollinia on the flower on the body of the insect. By photographing insects captured, I was able to measure pollen loads. I found that A. mellifera was the most abundant pollinator, thus visiting the highest amount of inflorescences over D. plexippus. Apis mellifera had the highest amounts of pollinia removal and insertion, thus aiding in the efficient pollination of A. curassavica. Nocturnal pollinators did not visit A. curassavica during the study, possibly suggesting that these type of insects are not attracted to their flowers, perhaps due to their small size or limited amounts of nectar. This research represents the first time pollinators of A. curassavica have been documented in California.

**Morgan Valicenti, Orthotics and Prosthetics**  
*How Exercise is Related to the Mental State of Persons with Amputation*  
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

After undergoing an amputation, a person is faced with many physical and mental hurdles. Often times, the focus on persons with amputations is on their physical well-being, when their mental health remains equally as important. Persons with amputations have shown a higher prevalence of anxiety and depression. This study measures how exercise is related to the mental state of persons with amputations. It is expected that with increased levels of exercise, there will be decreased levels of anxiety and depression. 17 subjects were issued three questionnaires. Scores of The Obligatory Exercise Questionnaire were compared to those of both the SF-36, and HADS. The R values of the compared scores were 0.874 (p=<.0001) and -0.791 (p=0.0001) respectively. The results show a positive correlation between higher levels of exercise and decreased levels of anxiety and depression and, a better overall mental and physical state. Clinically, promoting physical activity and exercise to patients will benefit their quality of life.

**Andrea Sosa, Earth Science and Geography**  
*Oil Refineries Contribution to Contamination of Groundwater Supply*  
Faculty Mentor: Parveen Chhetri, Earth Science and Geography
In the Los Angeles area there are a total of 7 operational petroleum refineries. Most of the refineries sit on top of the West Coast Basin, which underlies 160 square miles of this region. These refineries are in charge of refining crude oil and producing petroleum naphtha, gasoline, and diesel fuel, asphalt base, heating oil, kerosene, and liquefied petroleum gas. Many of these refineries produce from 80,000-400,000 barrels of petroleum products per day. The refining process presents a threat to groundwater resources, as deep well injection involves potential pollutants such as wastewater, brine, and/or various chemicals. Another potential risk is that many of the refineries are located close to the coast which presents the added risk of potential salt water intrusion. Using Geographic Information System (GIS) software, this study will compare the locations and outputs of refineries; along with water district replenishment and intake reports. This work is important in that the Los Angeles area does not have enough water reserves to support its current population.

**Jeffrey Stone, Social Work**  
*A Qualitative Comparison of Social Work Practices Between Norway and the United States Regarding the Treatment of Single Fathers*  
Faculty Mentor: Maria Avila, Social Work

In the social work profession in the United States, single fathers are too often thought of as simply providers and not given enough consideration for their ability to be nurturing caregivers and subsequently are treated unfairly. In other countries, such as Norway, fathers are much more exalted and recognized for their capacity to contribute in their children’s day-to-day upbringing. Comparing and contrasting how social workers and single fathers in the two countries perceive the role and treatment of single dads may give insight into advancing more equal treatment of single fathers here in America. In order to better understand and help change the biases against single fathers that exist in the social work profession here in the United States, a qualitative phenomenological study comparing social workers and single fathers here in the U.S. with those in the country of Norway is being conducted. By use of a one-on-one interview/narrative approach, a list of three open-ended questions having to do with views on single parenting were discussed with one social worker and one single father in each of the two countries and then the data collected from those various interviews is currently be analyzed. Thus far the data is showing evidence of two key factors initiating better treatment of fathers in Norway, which include a greater value given to women in the workforce and a greater political involvement of single dads. This is surprising considering it was expected that the difference would have more to do with treatment and attitudes of participants. Subsequently, once the research is completed, the results could be presented in various social work settings to incite discussion and bring more awareness to the issue as well as to encourage mobilization of social workers and single dads to pursue more egalitarian treatment at the state and national levels.

**Ruben Domiguez, Anthropology**  
*Accessibility at CSUDH*  
Faculty Mentor: Sarah Taylor, Anthropology

The purpose of our study was to research accessibility at Cal State University Dominguez Hills. Specifically, we focused on the architectural and structural aspects of accessibility on campus, by obtaining campus community knowledge on the subject on disability. The methods used for this project were: conducting interviews, providing thirty survey questions to both students and faculty, and synthesizing our field notes. We surveyed both students and staff to get an overall perspective of what accessibility on campus means to them. To maintain a holistic perspective, our approach consisted of information received from able bodied and disabled person. Additionally, we utilized materials obtained from a disability
studies course taught by Professor Nancy Armstrong (ANT 371). The results of this study will bring awareness of the architecture and structure of the campus to those in the CSUDH campus community. This project is in perfect timing because, as we speak, a new building is under construction by the library and we must inform them of the necessary amenities needed to make the building as accessible as possible. The research may not only help disabled students and staff members- as a means of accessibility, but also create a better sense of welcome, increase moral, and possibly increase student activity on campus. The forte of a university is the unity and connection students and staff members have within each other. Creating this sense harmony can benefit students and staff members, thus CSUDH a campus that is accessible to individuals of all abilities.

Roxana Rodriguez, Special Education
Students with Mild/Moderate Disabilities: The Relationship Between Executive Functions and The Writing Process
Faculty Mentor: Saili Kulkarni, Special Education

Although there is existing research about students with disabilities and their executive dysfunctions. The purpose of this study is to observe the relationship between executive functions and the writing process. Students with learning disabilities typically display signs of suspected executive dysfunctions which can make completing a lengthy writing assignment difficult. The data from this study will be collected solely from students through narrative observations of behaviors and student work samples. The data will be analyzed by evaluating student’s response to the targeted executive function interventions and their grade on the writing sample based on a set rubric. It is predicted that graphic organizers, as well as a checklist, will help students overcome some of the attributes associated with executive dysfunction during the writing process. The implications will be to demonstrate the how accommodations such as graphic organizers and checklist help students overcome the executive dysfunctions associated with essay writing; additionally, the study will explore how students’ writing can be enhanced through strengthening their executive functions.

Michelle Holloway, Special Education
Increasing Reading Comprehension Improves Standardized SBAC Math Scores
Faculty Mentor: Saili Kulkarni, Special Education

Although proficient secondary reading levels are inconsistent in high school students identified with a disability, a student’s ability to understand and score proficient or advanced on standardized math tests is an expected outcome. This study will examine a text-to-speech intervention used to improve reading comprehension levels, which will help to increase SBAC math test scores. Research articles related to this topic yielded a limited number of relatable articles, or even non-existent ones, that addressed the use of computer-based technology, as an instructional support strategy in advanced mathematics. The participants in this convenience sample are 11th grade students enrolled in a Mild/Moderate Special Education Math Classroom. The study will be completed by collecting quantitative data, which will be stored in a structured and validated computerized software program. In addition, all research participants will chart their time spent using Natural Reader, a text-to-speech program. A comparison of math scores will be performed between participants who used Natural Reader versus those who didn’t use Natural Reader. It is the hope that these research findings support that text-to-speech interventions improve reading comprehension levels, which helps increase SBAC math test scores
Carleen Ramirez, Special Education
*What are the effects of Community Based Instruction on Students with Moderate Disabilities?*
Faculty Mentor: Saili Kulkarni, Special Education

The purpose of this study is to measure the effects of community based instruction on the development of life skills of students with moderate disabilities. The data for this study will be gathered using observations and checklists to monitor progress and mastery of desired life skills. The data will be analyzed by evaluating the progress, if any, of student performance based on checklists on observations. This study will hopefully show that students are able to acquire and master life skills through the use of community based instruction. The implications for this study are that community based instruction teaches students life skills that will transfer to their adult life, leading to more independence and a better quality of life.

Donna DaVanzo, Special Education
*ADHD, Handwriting and Mathematical Achievement in Middle School Boys*
Faculty Mentor: Saili Kulkarni, Special Education

Although research has been done on handwriting and its relationship to academic achievement, as well as ADHD and mathematic achievement, there has been little research that ties these three concepts together; nevertheless, this paper contends that there is a relationship between all three of these domains. With the dual issues of high stakes testing and inclusion of students with Attention Deficit Hyperactivity Disorder (ADHD) in mainstream classes, their success in mathematics is crucial. The purpose of this study is to explore the relationship of ADHD and poor handwriting as it relates to achievement in mathematics. Seventeen boys, 13-14 years old and diagnosed with ADHD participated in the study. The students' handwriting was evaluated for clarity, and their mathematics achievements were assessed via common formative assessments used on a single middle school campus; the academic results were then compared with the level of legibility each student demonstrated. The results indicated that there is a positive relationship between the handwriting ability of boys and how well they perform academically in mathematics.

Lashanda Grant, Special Education
*Effectiveness of Sheltered English on English Learners with Disabilities*
Faculty Mentor: Saili Kulkarni, Special Education

Although there are numerous studies on English language learners and the best ways to educate them, nevertheless the research on long-term English language learners is limited because this group of students have a unique set needs it is imperative to conduct further research to determine best practices to increase the rate in which these students become English proficient. The purpose of this study is to evaluate the effectiveness of a Literacy & Language Sheltered English Course (L & L sheltered English) in aiding long-term English learners in becoming English proficient. Data will be collected through a combination to teacher surveys and a review of California English Language Development Test (CELDT), Scholastic Reading Inventory (SRI), and Reading Inventory (RI) scores. The information will be compiled and analyzed to determined (1) if the L & L sheltered English instruction has a positive effect on reclassification rates and (2) if teachers’ perception and preparedness affects students’ reclassification rates. This study hopes to show (1) the L & L sheltered English course has a positive correlation to reclassification rates and (2) positive teacher perceptions and adequate teacher preparation will increase the number of long-term English language learners (LTEls) who become English proficient. Implications from this study should suggest that a consistent comprehensive English language development (ELD) program can increase the number of English language learners whom become English
proficient.

**David Halushka, Special Education**  
*Student and Administrator Perceptions of School Based Discipline*  
Faculty Mentor: Saili Kulkarni, Special Education

School-based disciplinary actions that employ the use of the punitive approach to address behavioral problems have been shown to have detrimental effects to students. Suspending a student increases the likelihood that a student will receive a subsequent suspension. There is also a significantly strong relationship between punitive disciplinary actions and low academic achievement. In addition, there is data that overwhelmingly suggests that these punitive practices disproportionately target students in special education. Although quantitative research suggests that the punitive approach is ineffective, we know little about why it is so ineffective. This study looks to supplement the established quantitative data that shows the punitive approach to be ineffective by providing qualitative data in the form of narrative viewpoints and perspectives from students who have been exposed to punitive disciplinary actions. Additionally, administrator perspectives will be utilized to understand leadership perspectives as to why the punitive approach is so ineffective. The implications of this study can aide in designing more proactive and responsive approaches to school based discipline.

**Ranferis Hernandez-Cabrera, Political Science**  
*Sexual Identity through the Eyes of Mapplethorpe*  
Faculty Mentor: Kirstin Ellsworth, Art and Design

Sexual Identity through the Eyes of Mapplethorpe explores the political and public climate in regards to the LGBTQ community before, during, and after the time Robert Mapplethorpe was working. The presentation explores how Robert Mapplethorpe is an essential component of Queer Arts because, in a time of great censorship, he refused to remain closeted or assimilate to preeminent social constructs by revealing what lurked in the shadows of oppression. In addition, his work helps understand the reasons why and how Queer Theory in the visual arts came into fruition and what Queer Theory means.
Nataly Arias, Biology
*Molecular Methods in Zebrafish Research*
Faculty Mentor: Fang Wang, Biology

Our lab is currently conducting research to understand the molecular mechanisms that control the development of skin and sensory neurons in Zebrafish. Identifying genes highly expressed in Zebrafish skin and its effects on the development can ultimately aid in the future diagnose and treatment of skin abnormalities in humans. The Zebrafish was chosen as the model organism because its genome has already been fully sequenced, it has high genetic similarities to humans, the external embryonic development facilitates observation of developmental processes, and it can easily be genetically modified. There are many procedures used in our research such as in-situ hybridization, micro-injection, and genotyping. The particular one that I have been learning during my short time in this lab is: Polymerase Chain Reaction, which is also known as PCR. This is a technique used to amplify a section of a DNA or gene of particular interest from a very small amount of DNA template. There are five elements required to execute PCR: the DNA of interest, primers, dNTPs, Taq polymerase, and buffer. The polymerase chain reaction is composed of three stages: denaturing, which is the addition of heat to break the DNA hydrogen bonds and form single stranded DNA template; annealing, when temperature is made ideal to allow DNA primers to bind to the template DNA; lastly, extending, when the temperature is increased to assist the synthesis of DNA molecules by Tag polymerase. This procedure is a common tool used in biological research to detect the presence or absence of a target gene, amplify DNA molecules for sequencing or cloning, and it is also frequently used by forensic scientists and clinical scientists.

Samantha Feinstein, Education
*Assistive Technology in the Classroom*
Faculty Mentor: Edward Curammeng, Teacher Education

This action research was conducted to determine if the use of assistive technology, specifically the interactive SMART board, would lead to higher general education and special education student assessment scores in reading comprehension. The research was completed in a public elementary school. Data was collected using Pre and post assessments, teacher observation journals, and student conferences. The smart board lessons were introduced to the students over a four-week period of time. The lessons included, small groups and interactive activities. Tools such as the highlighter, spotlight, audio, and interactive games were implemented to utilized the abilities of the smartboard. For most students, final assessment data showed the assistive technology driven lessons using the smartboard produced an increase in assessment scores. It is very probable that the use of technology as a teaching tool stimulated interest to the point that assistive technology driven lessons were more effective than other lessons in previous years. Therefore, results suggest that technology driven lessons and the use of different teaching methods could be the best course of action for future practice. Further research could measure the effect of individual use of technology rather than group use of technology on reading comprehension assessment scores.

Homood Alharbi, Education
*Learning with Audio Books via YouTube in reading class*
Faculty Mentor: Edward Curammeng, Teacher Education
The key objective of this study is to investigate the benefit of using audiobooks with adult English learners. The study aims to learn about the advantages and disadvantages of using an audiobook in a reading class, specifically, how does the use of an audiobook in a reading class affect adult English learners’ reading skills? This study was conducted at a small English institute located at a public university, in the Western United States. 100% of the students attending this small English institute are from countries other than the US. The participants in this study were 15 international students, all males between the ages of 18 and 29, from four counties: China (7), Saudi Arabia (6), Kuwait (1) and UAE (1). To investigate that use, the investigator attended an ELS reading class for three days a week for a total time period of three weeks. The reading teacher agreed to incorporate an audiobook as one of the main activities during these three days a week. The audiobook selected was English Audio Book Story for Beginners (With Subtitles) via YouTube. Data in this study was collected by survey, interview, and observation. The result shows that only five students (33.33% out of 15 students) found the use of the audiobook useful and reported that it contributed to improving their language skills. Ten students (66.66% of 15 students) indicated that they did not feel any different with audiobook. The findings of the study revealed a number of both advantages and disadvantages of the use of audiobooks.

Thaithao Nguyen, History
*Ethics Community – Little Saigon*
Faculty Mentor: Doris Namala, History

Little Saigon provides an essential ethnic enclave inside a large county. Here, immigrants and Vietnamese Americans join together to pursue an improved standard of living and preserve their cultural roots and practices. Over the years, people moved away from the old neighborhood and maintaining only minimal ties to the area. There was also silence concerning the complex nature of Vietnamese migration in the 1960s-70s via firsthand observations of academic and political settings as the narrative of Asian immigration experiences is centered on Japanese, Chinese, Korean, and Cambodian communities. Much of the existing scholarship focuses on the Vietnamese war refugee experience, but only to the extent that this immigration was an outcome of the conflict. It neglects explicit mention of the United States’ role in creating the conditions that necessitated flight from Vietnam and lacks formal acknowledgment of local government’s role (if any) in the settlement process of these immigrants. My research will specifically focus on the community that Vietnamese immigrant and Vietnamese Americans have created in Little Saigon and the surrounding cities over the past four decades. This additional research and examination of local history would present a proactive approach to highlighting and preserving the background of Little Saigon through the Vietnamese-centered immigration experiences that birthed this cultural epicenter. The research goal is to contribute to existing scholarship by studying the development of Little Saigon through the lenses of race, class, and gender, and by thoroughly incorporating US-Vietnam foreign relations in the 20th century as an overarching framework.

Kelly Stephens, Sociology
*Equality in Access to Healthy Food*
Faculty Mentor: Matthew Mutchler, Sociology

My project is on how access to healthy food is organized around, race, class, gender, and the community. This topic is important because a nutritious diet is a human right. It is part
of overall healthcare. In my research, I aim to contribute to ways communities empower themselves in creating access to healthy food and finding new strategies to achieve this. I use qualitative methods of research by analyzing literature on access to healthy food. My key words include food desert, human right, equality, equity, and intersectionality. I have found themes in my research such as location, transportation, and cost. All of these factors correlate with race, class, and gender in a way affects equity and equality in accessing healthy food. In many cases race, class, and gender create what Patricia Hill Collins named the Matrix of Domination. This is when multiple identities come together in a person’s life that affects their chances and opportunities due institutionalized discrimination. Using both a historical and current perspective, I discuss how accessing healthy food consists of knowledge and empowerment, physical location, and cost. People of color, and people in low income families are disproportionately affected by lack of access to healthy food. Energy dense foods tend to be more expensive and one must eat more to keep full. In addition, when corner stores are the only close location for people to get food, they are limited to what food they can buy and prices tend to be higher. Organizations in the Los Angeles area like Social Justice Learning Institute and Empowered 4 Life strategize and implement strategies to provide affordable healthy foods to low income communities and communities of color. I discuss these strategies, their meaning, and suggest more ways to promote equity and equality to all people in accessing healthy food.
Thursday, February 15 Presentations

Behavioral and Social Sciences II — Ballroom B

Morning Session: 9:00 am – 11:30 am

9:00–9:20 am

Christian Harms, Psychology

Life After Exoneration: Employer Perceptions of the Wrongfully Convicted
Faculty Mentor: Heather Butler, Psychology

Through advances in DNA technology, hundreds of individuals have been exonerated for crimes they did not commit. This group of people entering the workforce face largely unstudied experiences. Although it can be theorized that these innocent individuals would be warmly welcomed into society, there has been no prior research to narrate the employment climate in which they are entering. This study explores potential biases they might experience in the context of job interviews and employer perceptions of their criminal record and subsequent exoneration. Mock employers (n=200) were presented with a resume, picture and contextual information regarding a prospective employee. The ethnicity of the applicant (white, black) and their conviction status (no prior conviction, conviction, wrongful conviction) were the independent variables manipulated. Applicant photos were selected from the Chicago Face database on the basis of their similarities. Those who had prior conviction were less likely to be hired than those with no conviction and those who had been wrongfully convicted. Surprisingly, the black applicant was more likely to be hired than the white applicant, which was inconsistent with the literature. The more interesting finding was the interaction between the ethnicity of the applicant and their conviction status. When the applicant had no prior criminal history, his race was not a factor in the hiring decision. When the applicant had any sort of conviction (wrongful or not), participants were more likely to hire the black applicant than the white applicant. Compared to those with no prior criminal history, applicants who had been incarcerated (wrongful or not) were perceived to have psychological problems. These results indicate although these mock employers were not dissuaded from hiring the wrongfully convicted, they were more likely to believe that their time in prison would result in them suffering psychological problems, which could be a barrier to employment.

9:20–9:40 am

Ivett Gabriella, Psychology

Prosocial Behavior and Alcohol Use Among College Students
Faculty Mentor: Carl Sneed, Psychology

Alcohol use (AU) is a known public health concern, and college students, in particular, are at a high risk for alcohol-related problems. Studies suggest that positive emotions may moderate the desire to use alcohol, and lead to better self-regulation by encouraging healthier coping options. Prosocial behavior has been shown to be associated with positive emotions, thus it may have a direct effect on alcohol use, and it may be considered a protective factor. Studies about prosocial behavior have been shown to increase positive emotions, however, studies assessing the effects of prosocial behavior on AU have been largely inconclusive. The purpose of the study was to investigate if prosocial behavior directly correlates with AU. We hypothesized that increased prosocial behavior would be associated with decreased levels of AU. Participants (n=235, 151 female) were undergraduate and graduate college students from a university in California. Students filled out a survey online, which included questionnaires about their regular social participation, attitudes toward altruism, prosocial tendencies, alcohol use frequency, typical amounts of alcohol consumed per
occasion, and binge drinking. Correlational analysis showed that social participation significantly positively related to binge drinking (r=.203, p<0.5), altruism was significantly positively correlated with all 3 alcohol variables (AU frequency r=.278, p<.001; AU amount r=.257, p<.001; binge drinking r=.258, p<.001), however, prosocial tendencies had no significant correlations with alcohol use. Based on the results altruism and social participation may be associated with increased alcohol use, which did not confirm our hypothesis. However, average drinking rates among participants were very low, which did not indicate risk drinking behavior. These results indicate that alcohol use may be more closely associated with social participation than emotions because social drinkers might have more opportunities for drinking during social events.

9:40–10:00 am

Lawrence Ramirez, Monica Acevedo Guerrero, Anthropology
In a Community of Words: Maintaining Khmer Cultural Identities through Language Education in an Immigrant Community
Faculty Mentor: Susan Needham, Anthropology

In nearly every immigrant community, there is a social pressure to culturally assimilate into the host society. Over generations, links to the culture of origin grow tenuous and cultural identity merges into the new culture. However, many communities cherish and celebrate their home cultures. Their identities are deeply entwined with shared cultural elements of ethnicity, religion, values, and language. Consequently, these sorts of cultural links become emphasized in the immigrant community as a way by which cultural identity is performed and maintained. Such a process may be perceived at the Khmer language classes offered at the Mark Twain library in the “Cambodia Town” neighborhood of Long Beach, California. In this context, the Khmer language plays two roles. First, it serves as a cultural link to the community’s roots in Cambodia. Second, it serves as a method of preserving a distinctive Khmer cultural identity, in the midst of social pressures to adopt a “western” identity. Through ethnographic qualitative study, including participant observation, interaction analysis, and ethnographic interviewing, the ways in which language education shaped cultural identity were explored. Within the literature review, various theoretical paradigms were considered in light of the grounded theories raised by this fieldwork. Specifically, George Spindler’s concepts on the transmission of culture and Harry F. Wolcott’s theory on the intentionality of learning were pertinent to analyzing how the symbolic significance of literacy and spoken proficiency in the Khmer language was negotiated, performed, and valued by the participants within the language classes.

10:00–10:20 am

Jessica Guszak, Psychology
Cognitive and Mental Health Effects on How People Absorb Information from Social Media
Faculty Mentor: Mark Carrier, Psychology

Smartphone usage gives individuals the advantage to check news via social media. In many cases, “fake news” is mixed up with more prestigious news sources thus making it harder to differentiate reliable information from false information. It is possible that many individuals are being influenced by the false content that they come across while scrolling through their social media. The constant views by an individual of false information is essentially luring them to believe the misinformation. Past research has examined when people see a repetition of fake news content they tend to have lower cognitive processes. Other research has indicated that when users get fixated on a specific community of pages, they do not look at anything else. This behavior allows people to generate false beliefs, which could cause for misinformation to spread. This can potentially become a problem because it affects other views that a user may have, for example, social beliefs. However,
some studies have suggested that constant usage and access to the Internet could impact the way people perceive information online. The purpose of the present study is to examine people’s beliefs, attitudes, and actions toward online news information by creating new measures of those constructs. The methodology consists of collecting data from 150 students from CSUDH through an online anonymous questionnaire. To determine if psychological dimensions impact the way an individual processes information online, measures of executive function and Internet addiction are administered. It is expected that persons with poor executive function or with symptoms of Internet addiction will be least likely to critically evaluate online news. The research gives insight into how people’s perspectives are being influenced through various news sources and into the psychological dimensions associated with the processing of online news information.

10:20–10:30 am COFFEE BREAK

10:30–10:50 am

Ray Jaquez, Cristina Fincel, Psychology

*Design Your Life: Evaluating a Course to Help Students Transition from College into their First Career*

Faculty Mentor: Heather Butler, Psychology

Many colleges offer “career” courses that aim to help students transition from college in their first careers, but they do not seem to have the impact that students, faculty, and university administrators hope they will have. The Design Your Life class restructures previous notions of transition courses by using innovative design thinking to conquer the “wicked” problems associated with future life shaping decisions. Many students have misperceptions of career and educational requirements which essentially lead to dysfunctional beliefs that influence their career decisions, and preparations tactics for said careers. The Design of Your Life course provides students the necessary tools to restructure those dysfunctional beliefs and creates a framework and set of skills that can be used throughout their lifetime to improve employability. The course was first created at Stanford University, it was then adapted to meet the needs of underrepresented, public university students. Students reflect on the relationship between their worldview and work view. They reflect on activities they found energizing and engaging, and what they want their futures to entail. There are two metacognitive strategies developed in the course used to reframe these said dysfunctional beliefs and being mindful of the process. The course through persistence and efforts culminates in the creation of an Odyssey Plan, three 5-year plans for their future. Data was gathered from both a pre-and post-course measures collected during the first year of the pilot program (n=160 students). The results indicated students experienced a decrease in career anxiety, and increases in career agency, job search confidence/competence, networking confidence/competence, hope for the future, grit, and growth mindset. Persistence, graduation rates, and employment metrics are being tracked to evaluate the long-term effectiveness of the program. The results thus far indicate that the students are greatly benefitting from the class.

10:50–11:10 am

Tatiana Cruz, Ernesto Morales, Dolores Duran, Anthropology

*Eugenics and Ableist Language*

Faculty Mentor: Nancy Armstrong, Anthropology

The purpose of our study is to understand eugenics language and how it continues to effect modern day society. Information was gathered using the CSUDH Archives and Special Collections, scholarly sources in Disability Studies, disability activist websites, and other mediums. Eugenics is both an exclusionary social policy and the manipulation of human reproduction to “improve” the human
species. This is especially true with respect to practices put in place to exclude the disabled, including but not limited to institutionalization (often forced), sterilization (often forced), and immigration laws. Language defines the norms of society and, thus, has the power to negatively and disproportionately effect minority groups, especially those in the disability community. More specifically, language has historically had the power to influence who is considered to be “fit” or “acceptable” members of society. With respect to this, we found that roots of this dangerous framework can be traced back to Ancient Greece, most notably in Plato’s “Republic.” Furthermore, we examined the influence that ableist language has on political movements/policies from the eighteenth century to present day. In some cases this language is used to offend others. We found a profound occurrence of ableist language used to offend in current news headlines and social media.

11:10–11:30 am

Enya Valentin, Psychology
Narcissism in relation to filter usage and selfie sharing on Snapchat
Faculty Mentor: Mark Carrier, Psychology

Can use of social media applications be associated with different psychosocial issues? Few research studies have examined the relatively new and popular social media application Snapchat. While it does share some similarities with other photo-sharing social media and social networks, it also has some unique qualities as an application. Some of these features have included a variety of different kinds of filters (e.g., geofilters, lenses or filters that move in real-time with the user’s face in a selfie), direct picture sharing with either their entire group of friends (by using their story on the application or a few individual, and a limited timed and number of viewings on the pictures shared directly with friends. It is these unique qualities that could serve as predictors for narcissism. Previous research by Fox and Rooney (2015) has suggested that narcissistic men are more likely to edit their photos and share greater numbers of selfies via social networks. In the present study, an anonymous survey was administered to a large, diverse group of undergraduate students at California State University Dominguez Hills (N=182). General usage of Snapchat, filter usage, and taking of selfies were assessed, as was typical daily usage of other digital media. A measure of narcissism, the Narcissism Personality Inventory (NPI-13), and the Rosenberg Self-Esteem Scale was included in the questionnaire. It was hypothesized that Snapchat usage (particularly selfie sharing and filter usage) will predict narcissism levels. Preliminary results show that the amount of selfie sharing on Snapchat predicts scores on the NPI-13; however, there is no significant relationship between narcissism and filter usage on Snapchat. Implications for the relationship between personality and personal technology use will be discussed.
Globalization has increased the scope of businesses all around the world. As a result, manufacturers have faced increased inventory levels in response to longer lead time and more demand uncertainty. The purpose of this study is to determine the extent to which transportation modal selection can help manufacturers reduce inventory costs while meeting demand requirements. For the purpose of this study, relevant data from the Annual Survey of Manufacturers and U.S. Export for 6-digit NAICS manufacturers was examined from 2002-2015.

Introduction: Significance and Goals- Motivated by the perceived disparity between supply and demand for skilled workers in STEM fields, we have conducted an empirical study of how that may have influenced young people in pursuit of STEM careers—specifically American students and Chinese students. Methodology- The study is based on a survey comprised of around 200 American and 200 Chinese college students in business disciplines. The analysis is conducted using a statistic reasoning approach, and the findings are presented in light of a grammar of graphics so that multi-dimensional data visualization can be achieved. Results and Discussion- Statistical data of survey results are calculated and visually presented, which include means, standard deviations, and correlations to exhibit the significance and relevance of multiple factors impacting students’ readiness for STEM careers. The analysis results show that students in China and the US have significantly different perspectives of STEM and may be inspired differently and may have different career choices available for them to pursue and thus may be prepared for their careers differently. These differences may have fundamentally impacted their readiness for STEM education and attitude towards STEM career. Conclusions and Future Directions- While research in promoting interest in STEM fields has been intense, this research stands out by exhibiting several potentially intertwined factors in a 2D sphere. Implications from our research project should be noteworthy to educators and academic administrators so that appropriate curricula and cultivations can be offered. As opportunities in the STEM field rise, it is important to analyze how we can accommodate students’ learning needs to maximize their potential.
navigate the Internet and computer programs. But, not every student has Internet access and computer at home; students may not be equally proficient in computer programs either. I conducted this study to understand what computer technologies were perceived as important by students and how comfortable students felt about navigating the Internet and using computer applications. In addition, I intended to address the question: "Do the perceptions and digital skills vary by student’s ethnic background, gender, major, employment status, or family household income?" An online survey was created and used to collect data from the first-year students currently enrolling at CSUDH. I asked 109 freshman students what computer skills they perceived as important and how they perceived their own competence in the computer skills. I used a mixed-method technique to analyze the data. According to the qualitative data analysis, our first-year students stated that having access to the Internet and computer are essential for them to succeed in college. They also indicated the importance of knowing how to use the Internet and the computer, as well as how to use blackboard, social media, PowerPoint, and Word for their classroom use. The survey also included a question asking students on how they believe their proficiency levels are when using word processing, spreadsheets, presentation, video editing and photo image tools, web-based course management systems (Blackboard), and Internet video and phone call services. The quantitative data analysis shows that our students are more competent with certain computer programs (such as Word, presentation, Blackboard) than they are with others (such as Excel, video editing). Digital skill differences by students’ demographic background will be discussed.
Creative Arts I — LSU 328

Morning Session: 9:00 am – 11:30 am

9:00–9:20 am

Ida Eriksson, Vendela Schonberg, Ricardo Mack, Sean Sweeney, Digital Media Arts
"Life Without Limits" Documentary Film
Faculty Mentor: George Vinovich, Digital Media Arts

Statement of the Problem. Many people don’t know what it is like to live with a physical disability. These individuals have to fight harder to sustain a functional life, and it is very inspiring to see them overcome their disability and succeed at creating incredible works of art. Statement of the Purpose. Our production team wanted to create a documentary film to showcase art from a perspective that is underrepresented in today’s society and to create a platform for disabled artists and their artwork. Through their art, disabled people have a chance to teach us about the problems they had to overcome in adapting their lifestyle in order to be able to continue working in their art. Methodology. Producers, Vendela Schonberg, Ida Eriksson, Sean Sweeney, and Ricardo Mack took this project through the entire documentary production cycle: pre-production (researching the subject, interviewing potential artists, script writing, and story boarding) to production (crew assignments, lighting, audio, art direction, camera, and directing) and finally to post production (video editing, narration recording and graphics production). Our fellow classmates in DMA also created original music scores for the film. Discussion of Results. Audiences that have viewed our film have been impressed with our cinematography, but the emotional aspect of the subject material is what most people say is unique and touching about the film. Audiences are inspired to see what these artists go through in order to produce their art work. Conclusion and Future Direction. We plan to enter our documentary into multiple film festivals around the country including the CSU Media Arts Festival. We also hope to be able to make this short documentary into a full-length documentary or a short series for online distribution and local TV.

9:20–9:40 am

Farida Alami, Sal Velazquez, Jeanine Carrere, Digital Media Arts
"Plastic Disaster" Documentary Film
Faculty Mentor: George Vinovich, Digital Media Arts

Statement of the Problem. Plastic products have become a way of life in our society. It seems almost impossible to avoid plastic products in the packaging of our foods and beverages. Unfortunately, people do not use plastic packaging responsibly, and most of it ends up in our oceans killing over 100,000 marine animals each year. In time, plastic waste will accumulate in our oceans to the point of irreversible damage to the entire ecosystem. Statement of the Purpose of the project. Our production team wanted to create a documentary film to not only inform the public about the dangers of plastic waste, but to also dramatically illustrate through graphic images its deadly effect on marine life. With many solutions now available, our film explains how new laws that ban plastic grocery bags and new products that use alternative packaging can help to save our oceans. Methodology. Producers, Farida Alami, Jeanine Carrere, and Salvador Velazquez took this project through the entire film production cycle: researching the topic, arranging interviews with experts, filming scenes and interviews on location, and editing the final cut of the film with original music composed by fellow classmates. Discussion of Results. Audiences who have viewed our documentary say that the film gets its message across very effectively, especially our ocean pollution and marine life scenes. Our documentary has already won several awards in national and international film festivals. Conclusion and Future Direction. Our group plans to enter more film festivals including the CSU Media Arts
Festival. With the awards we’ve received, we know that we can get more viewers to see our message and pass it on to others. In addition, such recognition can lead to an opportunity of possibly getting a television deal that would allow us to extend the documentary.

9:40–10:00 am

**Ricardo Mack, Allen Miller, Digital Media Arts**  
*Vet Suicide PSA*  
Faculty Mentor: George Vinovich, Digital Media Arts

**Statement of the Problem.** For those who do not serve in the military, it can be difficult to fathom the emotional trauma our veterans experience while on deployment. Many leave the military with post traumatic stress disorders which can make adjusting to life back home very difficult. Sometimes, this leads to suicidal thoughts. When our vets come home, they should be loved and provided with professional support to deal with suicidal urges. **Statement of the Purpose.** Our production team wanted to create a television public service announcement that could effectively bring awareness to the issue of increasing suicide rates among our veterans returning from war. Our veterans provide an important service to our country, but some of the experiences they endure during wartime can cause serious psychological harm. Veterans need to be aware that they have a support system to help them to deal with these problems when they return home. **Methodology.** Co-producers, Allen Miller and Ricardo Mack, took this project all the way through the entire production cycle: research on the topic, pre-production (script writing, auditioning actors and narrators, story boarding, and creating shot lists) to production (lighting, art direction, camera operation, and directing actors) and finally to post production (video editing, graphics production, and sound design with narration, sfx and original music). **Discussion of Results.** Audiences that have viewed our PSA say it is emotionally compelling. It makes a direct point and will have a positive effect on the prevention of veteran suicide. **Conclusion and Future Direction.** We plan to enter our PSA into local film festivals as well as the CSU Media Arts Festival in hopes of gaining positive recognition for our work. We hope our PSA accumulates enough positive praise and is worthy enough to be shown on local cable and television channels.

10:00–10:20 am

**Alberto Escobedo, Vandela Schonberg, Digital Media Arts**  
*LGBT Athletes PSA*  
Faculty Mentor: George Vinovich, Digital Media Arts

**Statement of the Problem.** One in four gay men say that they have been the victim of verbal threats or bullying while playing in an organized sport. Over 80% of people surveyed say that they have witnessed firsthand this type of discrimination when they participated in sports. LGBT athletes are more likely to experience a negative atmosphere when participating in sports which can adversely affect their performance. **Statement of the Purpose of the Project.** Our production team wanted to produce a television PSA that would: 1) model a pro-social response to learning that a teammate is gay, and 2) inform people that there are support groups like LGBT Sports Safe that can help. **Methodology.** Co-producers, Alberto Escobedo and Vendela Schonberg, took this project through the entire film production cycle: research on the topic, pre-production (script writing, auditioning actors and narrators, story boarding, and creating shot lists) to production (crew assignments, lighting, art direction, camera, and directing actors) and finally to post production (video editing, graphics production, and sound design with ADR, foley, and original music composition). **Discussion of Results.** Audiences that have viewed our PSA say that it sends a very positive message of how a person should react when learning that a teammate is gay. Instead of reacting with shock, ridicule, or disgust, the PSA models how to react with human understanding and support. It also informs LGBT athletes how to contact support groups such as LGBT Sports Safe.
Conclusion and Future Direction. We plan to enter our PSA in local film festivals as well as the CSU Media Arts Festival in hopes of spreading our message and possibly winning some critical acclaim and awards for our work. We also plan to have our PSA possibly air on local broadcast and cable TV.

10:20–10:30 am    COFFEE BREAK

10:30–10:50 am

Gibrann Rangel, Thinh Nguyen, Digital Media Arts
Teen Runaways PSA
Faculty Mentor: George Vinovich, Digital Media Arts

Statement of the Problem. Each day in the U.S., over 60,000 teenagers run away from home. These runaways often end up homeless and at the mercy of human traffickers who force them into prostitution, burglary, and drug addiction. Over 30% of runaways do not survive past their first year on the streets. Many of those who survive end up with life-threatening diseases such as A.I.D.S and hepatitis A. Statement of the Purpose of the Project. Our production team wanted to produce a PSA that would: 1) warn potential runaways of the serious dangers of living on the street, and 2) inform runaways about shelters as close as a phone call away that can aid them. These shelters will drive out to pick up the runaways at any time of the day and will assist them on a “no questions asked” basis. This, our team felt, was an important message to publicize to runaways that need help.

Methodology. Producers Gibrann Rangel and Thinh Nguyen took this project through the entire film production cycle: research on the topic, pre-production (auditioning actors and narrators, location scouting, story boarding, and creating shot lists) to production (lighting, camera, and directing actors) and finally to post production (video editing, graphics production, and sound design with ADR, foley, and original music composition). Discussion of Results. Audiences that have viewed our PSA say that it makes its point effectively and could have a positive effect on potential runaways. Conclusion and Future Direction. We plan to enter our PSA in local film festivals as well as the CSU Media Arts Festival in hopes of garnering some critical acclaim for our work. We also plan to have our PSA distributed online and broadcast on local cable and television channels.

10:50–11:10 am

Tiara Gray, Farida Alami, Ida Eriksson, Digital Media Arts
Peace PSA
Faculty Mentor: George Vinovich, Digital Media Arts

Statement of the Problem. With racism and bigotry resurfacing as a major trend in our society today, we need to make a concerted effort to stop putting “labels” on others because of their race, ethnicity, sexual preference, or gender identity and instead take a stand against discrimination. Between the women’s marches and the Black Lives Matter movement, there are many people pushing for equality and peace. Statement of the Purpose of the Project. Our production team wanted to produce a television PSA that would convince viewers that putting “labels” on others because of their race, ethnicity, sexual preference, or gender identity is wrong because in reality, we are all human. Our team feels that this is an important message because as a society, we all must stand together against discrimination and stereotyping, and instead stand up for peace and equality. Methodology. Co-producers, Farida Alami, Ida Eriksson, and Tiara Gray, took this project through the entire film production cycle: research on the topic, pre-production (script writing, auditioning actors, location scouting, story boarding, and creating shot lists) to production (crew assignments, lighting, art direction, camera, and directing actors) and finally to post production (video editing, graphics production, and sound design with narration, foley, and original music). Discussion of Results.
Audiences that have viewed our PSA say that it makes its point effectively and could have a positive effect on convincing people to stop putting “labels” on others because of their race, ethnicity, sexual preference, or gender identity, and instead take a stand against discrimination. Conclusion and Future Direction. We plan to enter our PSA in local film festivals as well as the CSU Media Arts Festival in hopes of receiving some recognition for our work. We also plan to have our PSA distributed online and broadcast on local cable channels.

11:10–11:30 am

Stephen West, Studio Art
“Revealing Design in Nature for Educating and Conversation”
Faculty Mentor: Devon Tsuno, Art and Design

How can the lens of a camera or the stroke of a paint brush educate and help preserve the wildlife and sanctuaries that are endangered in North America? Research shows that in the last quarter of the twentieth century 11 animals and 19 species of birds have become extinct. (Popular Mechanics, Sept.3, 20150, Bird Life Data Zone)) This group of paintings, drawings, and collages I have created are centered on researching the designs, colors, and forms observed in nature. My research began in my own community at Madrona Marsh, Torrance, California. This quickly expanded to the reserves and national parks of the Western United States that are sanctuaries to endangered birds and animals. Using my camera, sketch books and a variety of drawing tools my mission is to capture the birds and wildlife in their natural surroundings. At these sites I used pencils, markers and watercolors to quickly record the movement of the forms. Later, in my studio, I compiled these sketches and photographs evaluating and redesigning them to capture the gestures and feelings of my encounters with the wildlife. Through this process of breaking down the forms into: 1. Finding the geometric shapes and their relationship to the larger context. 2. Exploring with different surfaces, textures, colors. 3. Discovering that forms are essential to functions. 4. The use of mediums to capture the essences of the environment and the important relationships to the wildlife. The final artwork becomes a result of a building process with layers of rich color, forms and textures that bring to life these birds and wildlife. My mission is to draw the public viewers into my artwork to discover the wildlife and beauty found in nature. In doing this, there has been the opportunity to educate people to the need for saving this valuable resource for the future. I have used the nature centers at the reserves and parks to exhibit my artwork. My internship in teaching art at a nature preserve has been a wonderful opportunity to meet the community in using my artwork to further educate the public to this mission.
Selena Jovel, Clinical Science
*UCLA’s Approach in Reducing The Risk of Infectious Diseases in Platelet Units*
Faculty Mentor: Cheryl Jackson-Harris, Clinical Science

The risk of transfusion-transmitted infection has always been a concern for both the public and recipients receiving blood products. Preventative methods to reduce risk of transmission often include the donor history, questionnaire, as well as routine screening for transmittable diseases such as Human Immunodeficiency Virus (HIV), Hepatitis C Virus (HCV), Hepatitis B Virus (HBV), West Nile Virus (WNV) Cytomegalovirus (CMV), and Syphilis to name a few. Despite all of these routine tests, bacterial contamination of the product is still a concern. Here we evaluate the latest technology being used to reduce the transfusion-transmitted infectious risk in apheresis platelets at UCLA.

Parker Zak, Nicole Mosser, Christine Quach, Occupational Therapy
*“I am a Quilter”: An Ethnographic Study*
Faculty Mentor: Claudia Peyton, Occupational Therapy

The American Occupational Therapy Association’s (AOTA) Centennial Vision focuses on productive aging. Current literature is limited on how engagement in meaningful activities promotes productive aging. To address gaps in the literature, the broader aim of this ethnographic study is to examine the value of craft-based activities and its benefits for productive aging. To narrow the scope of crafts, the researchers focused on quilting and explored the values and beliefs of older women participating in a quilting guild. Data were obtained using focus group interviews and participant observation. Wolcott’s method of description, analysis and interpretation was applied to analyze the data. Data was organized using narrator order. Patterned regularities and relationships between participant responses were identified. Cross case analysis was used to determine key themes. Findings were displayed using a matrix, of key themes that emphasized patterned regularities in the data. Member checking was used to confirm the validity and interpretation of the results. Major themes amongst all participants included a sense of solidarity, camaraderie, self-improvement, acceptance, purpose, new experiences, and structured occupation of time from their association with the guild. These themes underlie the supportive nature of the quilting guild community and the empowerment members felt as participants and leaders in the guild. These findings highlight the communal and individual growth that can be derived from craft-based activities. Further research is necessary to refine these themes and better understand their place in the tapestry that is productive aging. Follow-up research may be conducted with the guild to see its evolution of membership, along with a more nuanced analysis of the factors that lead to participants adopting craft based activities and community engagement.

Marisa Cowan, Pearl Aquino, Freda Chamerlain, Occupational Therapy
*The Meaning Caregivers of a Child with Autism Ascribe to Participating in Community Occupations*
Faculty Mentor: Claudia Peyton, Occupational Therapy

Problem: The current literature focuses on the many challenges parents experience while taking their child with autism spectrum disorder (ASD) into the community. Research that gives caregivers a
voice to discuss the meaning or importance of engaging in community outings with their child is lacking in the literature; that is the gap our study seeks to fill. Purpose: To examine the meaning caregivers of children with ASD ascribe to participating in occupations in the community with their child. Methods: A qualitative, transcendental phenomenological approach was used to explore the phenomenon of caregivers taking their child with ASD into the community. Semi-structured interviews were conducted with seven participants recruited through a snowball sampling method. The interviews were transcribed verbatim and significant statements were delineated. These statements, along with textural and structural descriptions, were considered to find emerging themes. The themes were then used to describe the essence of the phenomena. Findings: Parents described their experiences and the following themes emerged: (a) exploring their child’s interest and motivation, (b) providing an opportunity to develop interpersonal skills, (c) bonding through shared interests, (d) maintaining their child’s mental health, (e) exposing child to new experiences. Conclusion: The results of this study indicate that despite the challenges families experience, the participants choose to continue to participate in community outings as they find importance and positive value in the experience. These findings shed light on the meanings parents of a child with ASD find most important and motivating about their community outings. Occupational therapists have the skills to tailor interventions towards families’ needs and motivations in addition to advocating for specialized community programs to better support this population.

10:00–10:20 am

Jordan Martin, Hans Kim, Lauren Kawano, Occupational Therapy
Compassion Fatigue Among Occupational Therapists: A Transcendental Phenomenological Study
Faculty Mentor: Claudia Peyton, Occupational Therapy

Purpose: The purpose of this study was to describe the phenomenon of compassion fatigue among occupational therapists. Problem: Compassion fatigue has been explored in other health care settings but little information exists with regard to the impact of this phenomenon on occupational therapy practitioners. For the purpose of this study, compassion fatigue was defined as the emotional strain experienced by occupational therapists (OT’s) in their practice which results in a reduced sense of compassion and empathy toward their clients. Method: A phenomenological approach was used where seven occupational therapists who self-identified as having faced compassion fatigue participated in two semi-structured interviews which researchers transcribed verbatim. Significant statements and common themes describing the phenomenon of compassion fatigue as experienced by these occupational therapists emerged from the interview data. Results: After significant statements and formulated meanings were identified from the interview data, three main themes were constructed: 1) OT’s dealt with a sense of hopelessness and felt powerless while facing compassion fatigue, 2) OT’s had to learn to manage expectations about their job and 3) OT’s developed coping strategies, such as compartmentalization and use of physical exercise, to deal with symptoms of compassion fatigue. Conclusion: This study confirms that occupational therapists do experience the phenomenon of compassion fatigue. Further research is needed to better inform occupational therapists of their vulnerability to the development of compassion fatigue and how OT’s that have experienced compassion fatigue coped with the symptoms.

10:20–10:30 am COFFEE BREAK

10:30–10:50 am

Justine Budke, Winnie Huang, Sophie Blechman, Casey Cho, Occupational Therapy
Everyone Can Dance: A Narrative Study
Faculty Mentor: Claudia Peyton, Occupational Therapy
With Parkinson’s Disease being classified as a progressive movement disorder, it has been found that these individuals tend to lead a more sedentary lifestyle due to their symptoms and social, physical and personal barriers that exist. With the many health benefits that come from participating in physical activity, it is essential to make adaptations to reduce the barriers to participation. The purpose of this qualitative narrative analysis was to examine the perceptions of participation in an adapted dance program by individuals with Parkinson’s Disease. This study’s intent was to provide a deeper understanding of the chronology of the individual’s experiences across time. The findings of this study were that when the participants found the class fun and a social activity, they increased participation and attendance, leading to an increase in activity level and feelings of self-efficacy. Participants described having an increase in energy, interest in group participation, and greater fluid mobility of the upper and lower extremities. Neurologic studies have shown that external timing of movement, such as dance, and auditory stimulation compensate for deficits in the internal motor timing mechanism associated with proper functioning of the basal ganglia. Due to the fact that an adapted dance class for persons with Parkinson’s incorporates external timing of movement to auditory stimulation, active participation, and observation, it is important to examine how participants perceive the long-range effects of dance on engagement in meaningful daily activities. With the expertise of occupational therapists in adaptation, they are well equipped to lead programs like this for persons with Parkinson’s to further participation. There is a need for future research on the benefits of adapted dance programs to further promote physical activity among individuals with Parkinson’s Disease and other disabilities.

10:50–11:10 am

Einette Arevalo, Rachel Ferre, Ryan Fukuji, Jonathan Isco, Occupational Therapy

The Hidden Problems Faced by Individuals with Spinal Cord Injury: A Chronology
Faculty Mentor: Claudia Peyton, Occupational Therapy

Each year, 17,000 new cases of spinal cord injury (SCI) occur in the United States (National Spinal Cord Injury Statistical Center, 2016). Of those injuries, a significant number of individuals experience bowel and bladder management challenges associated with SCI. These challenges have been known to interrupt a person's ability to engage in activities that are meaningful to them. The aim of this study was to describe the chronology of bowel and bladder management (BBM) and its relation to occupational engagement for individuals living with a spinal cord injury. A qualitative narrative analysis was used to reveal how occupational engagement has changed over time in relation to BBM for individuals living with spinal cord injury. Tape-recorded, semi-structured interviews and historic time lines were used to collect data. Qualitative data analysis resulted in identification of the chronology of seven themes associated with occupational engagement and past, present, and future dimensions of time and situated in the personal and social contexts of the participants' lives. A three-dimensional (3-D) model was developed from the work of Clandinin and Connelly (2000) and used in the data analysis process. Findings indicated that individuals who experience BBM challenges following SCI report a loss of independence, changes in routines, and decreased participation in preferred occupations. This systematic research may inform the literature on the needs of persons with SCIs and inform the medical professionals with whom they interact. As a result, findings may help to improve the lives of individuals with spinal cord injury through awareness of health care providers. Future research could examine the demographics of individuals who seek treatment using experimental BBM techniques and how interventions influence enhanced participation in meaningful occupations.
William Leisek, Ryan Kohl, Occupational Therapy

Occupational Therapist Attitudes Towards the Clinical Use of Emergent Technology: A Phenomenological Study
Faculty Mentor: Claudia Peyton, Occupational Therapy

Problem: The occupational therapy (OT) profession faces the intricate task of assimilating technological innovation into existing practice, as well as expanding into new areas of practice. Therefore, it is useful to assess the attitudes and perceptions of OT practitioners toward the current and former use of emerging technologies in the delivery of their services, in order to best inform future training and implementation. Purpose: The purpose of this phenomenological study is to describe the attitudes of OT practitioners toward their use of emerging technology in the delivery of OT services at various practice settings. For this research, ‘emerging technology’ is defined as any technology that has radical novelty, relatively fast growth, coherence, prominent and uncertainty or ambiguity. Method: The seven participants were registered and licensed OT practitioners working at various facilities. A qualitative phenomenological research study was conducted using semi-structured interviews of participants’ lived experiences of the use of emergent technologies in their practice. Results: After transcription, reduction, and analysis of each interview, the emergent themes included: inadequate technological training or guidance, frustration with implementation, improved delivery of OT services, improved communication, use of technology in treatment, and enthusiasm for future implementation. Conclusions: The OT practitioners reported unilateral enthusiasm for the integration of emerging technologies into their practices, as well as a general uncertainty as to the use of novel technology. The need for education and refinement of implementation were indicated. Given the anticipated increase in the implementation of emerging technologies within OT and health care, additional research into the technological aptitude and readiness of OT practitioners in general is recommended.

Cammie Mayfield, Morgan Kollenda, Halle Lorkis, Occupational Therapy

Diabetes Self-Management and Homelessness: A Grounded Theory Study
Faculty Mentor: Claudia Peyton, Occupational Therapy

Chronic diseases, such as diabetes, are experienced over a prolonged period of time and must be consistently managed to maintain health and well-being. Homeless people who have diabetes are faced with the challenges of being homeless coupled with the demands of chronic disease management. How these individuals conduct daily activities and deal with the challenges that arise need to be explained so that a greater understanding of their process of adaptation can be understood. Seven participants from Illumination Foundation (IF) were recruited, and in-depth interviews were conducted to collect data on their experience of diabetes self-management. The qualitative research method of grounded theory was used to guide the data collection and analysis process, resulting in a theoretical explanation of the process of diabetes self-management (DSM) among homeless individuals. It was found that the participants fit on a continuum of DSM. Their ability to self-manage their disease was influenced by their environment, available resources, and learned strategies of self-management. Understanding the factors that affect DSM may enhance the occupational therapy practitioner’s insight into the needs of persons who are homeless and living with diabetes.
Scoliosis is a three-dimensional deformity of the spine frequently diagnosed in adolescence. Left untreated, scoliosis can progress to create serious health complications during adulthood including pulmonary problems, disability, back pain, social difficulties related to severe cosmetic deformity, and decreased quality of life. Brace treatment, lasting from two to four years or longer, is the most common conservative treatment for scoliosis, with surgical correction often recommended for spinal curves greater than 50° Cobb angle. Because the diagnosis and treatment of scoliosis commonly occur during the complex and formative developmental stage of adolescence, there is heightened potential for adverse psychosocial and emotional consequences for the affected individual. Using an ethnographic approach, we studied the scoliosis support group, Curvy Girls Scoliosis Support Groups, a network of peer-led, adolescent groups aimed at helping adolescent girls cope with their diagnosis and treatment. Curvy Girls’ objective is to reduce the emotional impact of the diagnosis and treatment regimen of scoliosis upon young girls. Through interviews with seven current and previous members, attendance at a Curvy Girls meeting, and review of relevant artifacts and published information about the organization, researchers describe the threads that make up the fabric of the group. Themes of emotional and practical support, empowerment, and spreading awareness of scoliosis are explored. This study describes the values, beliefs, meanings, and overall culture created and shared by members of Curvy Girls Scoliosis Support Groups. The findings of this study indicate the need for additional research regarding the experience of parents and adult caregivers of adolescent girls receiving treatment for scoliosis.
The purpose of this phenomenological study is to explore what meaning people ascribe to the experience of receiving a stem cell transplant (SCT) for hematological cancer. A SCT is a treatment used to help cancer survivors recover from high doses of chemotherapy or radiation. The SCT process is rigorous and has the potential to be both physically and psychologically devastating. Research indicates that cancer survivors experience gaps in supportive care, or care that addresses the psychological, physical, and emotional consequences of both cancer and its treatment. The researchers understood the shared experience of SCT survivors so that supportive care may be better tailored to meet survivor’s needs before, during, and after SCTs. A phenomenological approach was fitting for this study, as it was an exploratory study seeking to shine light on the essence of the survivors’ experience of SCT as it was revealed by survivors’ storied data. Information was collected through a series of two, 60-minute, semi-structured, face-to-face interviews with SCT survivors. These interviews were transcribed verbatim and analyzed to generate significant statements, meanings associated with these statements, and themes common to the survivor experience. Researchers found seven major themes which were: lack of comprehensive medical guidance and supportive care, existential questioning, gratitude, emotional difficulty of experience, difficulty transitioning into life after treatment, physical changes, and determination. These themes suggest that SCT survivors could benefit from supportive care that would address the emotional and psychological challenges related to treatment as well as difficulties re-integrating into society. By understanding these gaps in care, healthcare providers can better support SCT survivors before, during, and after the SCT process. Further research is needed to investigate how supportive care for SCT survivors can be improved.

In pediatric therapy, the role of parent involvement is critical in implementing family-centered care. One of the main components of family-centered therapy is the relationship between the occupational therapist (OT) and the parent. It is the quality of this relationship that dictates the efficacy of family-centered care. This research provides the perspective of the parents that is lacking in current literature. The purpose of this narrative analysis is to describe how parents or primary caregivers experienced the development of their relationship with their child’s OT during their initial years of occupational therapy treatment. By examining the experiences of the parents, the complex relationship between the OT and the parents can be better understood, and may contribute to a more successful implementation of family-centered therapy in pediatric care. Seven participants were recruited for this study with purposeful and convenience sampling. Data were collected utilizing a narrative analysis approach through audio-taped, semi-structured interviews. Findings describe several common themes found in the parents’ experiences of the parent-OT relationship: open communication in social interactions, the impact of the OT’s personality, shift in roles between parent
and therapist, the development of collaboration, and having a better understanding of occupational therapy. These findings aligned with the results found in current literature regarding family-centered therapy. Further research on the impact of this relationship on the outcome of treatment processes could be conducted to facilitate the implementation of more family-centered therapy in pediatric therapy. Research could be done on various settings such as the clinic, school or home, to gain a better understanding of how the parent-OT relationships differ in each context as well. Additionally, a study describing the views of the OT would also provide beneficial findings by creating a more complete view of the dynamics of this relationship.

9:40–10:00 am

Kevin Yang, Sara Paik, Callie Woods, Occupational Therapy
*Immigrant Parents' Perception of Care: A Phenomenological Study*
Faculty Mentor: Claudia Peyton, Occupational Therapy

Although studies have been conducted on how the cultural values of immigrant parents affect their perception and decisions regarding seeking treatment for their children, there is currently a gap in the literature regarding the parents' perspectives on the actual therapy treatment received. The purpose of this study is to explore the perceptions of care by immigrant parents who received services for their children with developmental disabilities. Researchers conducted a transcendental phenomenological study to gather and analyze data on this subject. Data was collected through face-to-face interviews with seven immigrant parent participants, which were then transcribed and analyzed. The data was reduced to significant statements with the duplicate statements eliminated, then clustered thematically, and the essential structures were synthesized to describe the common essence of the perception of care by immigrant parents. The study findings presented four different themes: 1) barriers to quality care, 2) hands-off approach, 3) understanding the lack of support, and 4) care defined by progress. The information from these themes can be used to increase cultural competency of occupational therapists, and the phenomenon extrapolated from the findings implies the need for therapists to adapt their treatments to better fit the immigrant population. Future research should examine how occupational therapy care will adapt to the needs of immigrants as the immigrant population increases and the process of providing occupational therapy continues to evolve.

10:00–10:20 am

Tanya Dimas-Guillen, Daniel Endow, Kelly Johnson, Occupational Therapy
*Occupational Therapy in Acute Care: A Juggling Act*
Faculty Mentor: Claudia Peyton, Occupational Therapy

The purpose of this study was to compile a detailed description of the daily lives of occupational therapists working in acute care and find common themes among their experiences. This study intended to acquire detailed descriptions of the daily experiences of occupational therapists working in acute care due to the lack of research from the perspective of acute care occupational therapists. Specifically, this research sought to explore how working on a team, daily schedules, allocation of resources, and achieving work objectives are experienced by practicing acute care occupational therapists. This study was completed using qualitative, transcendental phenomenology non-restrictive interview methodology. The study sample consisted of seven occupational therapists working in an acute care setting. The primary data collection method was audiotaping of semi-structured interviews. Audio tapes were transcribed verbatim and the data from the transcriptions was analyzed using Colaizzi’s method of finding significant statements, creating clusters of meaning and identifying emergent themes. The research resulted in nine formulated meanings narrowed down into three major themes which emerged from the shared experiences of the occupational therapists.
working in acute care. Key findings suggest that both the general public and other professionals working in acute care do not understand the role of occupational therapy, there is a need for advocacy of the occupational therapy profession because there are often instances where occupational therapists are co-treating with other therapists on the treatment team. In addition, this research found that there are specific traits that work well in the acute care setting, including flexibility, good time management, possession of good communication skills, and initiative to take the role of educator.

10:20–10:30 am  COFFEE BREAK

10:30–10:50 am

Tiffany Ancheta, Rosalie Celestial, Danica Fernandez, Occupational Therapy
Sensory Experiences and Occupational Engagements in Young Adults
Faculty Mentor: Claudia Peyton, Occupational Therapy

Occupational therapists are well equipped in providing therapeutic services to children who have sensory processing issues. However, there is a significant lack of research based on the direct relationship between sensory processing and occupational engagement, especially in young adults. The purpose of this qualitative transcendental phenomenological study is to understand the sensory processing experiences of young adult participants. Semi-structured interviews were utilized to collect data on the sensory processing experiences of seven English speaking young adults, between 18-34 years of age. After the recording and transcription of each interview, investigators analyzed the data in the following manner. To ensure that the experiences of each participant would be authentically understood, the investigators first suspended all preconceptions related to the studied phenomenon. Next, the investigators analyzed the data and highlighted significant statements that provided insight into the participants' perception of sensory experiences. After the removal of repetitive and overlapping statements, the remaining significant statements were then grouped into themes, which were later used to form thematic clusters of meaning. These clusters of meaning were then used to describe the common essence of the sensory processing experiences of young adults. Results of this study have identified the following themes: 1) the "just right" level of sensory stimuli, 2) the impact of intense auditory and visual stimuli, and 3) coping strategies as a means to regain control of the environment. These findings have shown that sensory experiences do have an influence on an individual's behavior and choices made about activities. Implications of this study suggest future occupational therapy interventions and programs aimed at sensory processing regulation to facilitate occupational engagement.

10:50–11:10 am

Melissa Lowndes, Amy McAndrews, Occupational Therapy
Stories of Transition for First Time Mothers with Postpartum Mood Disorder
Faculty Mentor: Claudia Peyton, Occupational Therapy

Many parents are unprepared for the abrupt and dramatic changes that can occur in their lifestyle and identity following the birth of their first child. Mothers experience physical and hormonal changes throughout pregnancy, birth, and the postpartum period. Postpartum depression is reportedly diagnosed in 6.5%-12.9% of women; the more inclusive term Postpartum Mood Disorder (PPMD) is used for this study, which covers symptoms of depression, anxiety, Post-Traumatic Stress Disorder (PTSD), and psychosis. This qualitative narrative analysis explores the chronological narratives of first time mothers experiencing PPMD. The investigators conducted and transcribed verbatim two face-to-face interviews with 7 participants regarding their experiences before, during, and after the onset of PPMD. Investigators independently analyzed transcripts for each interview and found
themes for each participant; investigators then combined the themes of each participant story and created a chronological framework of the collective experiences of all participants. The findings reveal some shared experiences of new mothers who experienced PPMD that either supported or neglected their physical and psychological needs. Themes such as challenges identity development as a mother, self-efficacy, insufficient social and institutional support, extreme mood changes, and sleep deprivation were identified as major barriers to mothering role functions. The implications of this study indicate a need for comprehensive educational support services providing evidence based information to prospective parents, a more thorough screening system to assess women at risk for PPMD at various points in pregnancy and the postpartum period, and more extensive services for new mothers that support their physical and mental health. Occupational therapists, as members of the healthcare team, are positioned to offer interventions to improve the daily lives of women with, or at risk of developing, PPMD. The findings of this study may serve to inform the occupational therapy community to better prepare them to offer needed services.

11:10–11:30 am

Sara Pham, Valerie Rincon, Jimmy Tran, Occupational Therapy

Sexual Identity Reconstruction of Individuals with Tetraplegia
Faculty Mentor: Claudia Peyton, Occupational Therapy

Problem: The annual incidence of spinal cord injury (SCI) in the U.S. or approximately 17,000 new SCI cases each year (National Spinal Cord Injury Statistical Center, 2016). After SCI, all aspects of sexuality are affected; the physiological, psychological and emotional consequences. Purpose: The purpose of this multiple case study will be to describe the reconstruction of sexual identity for individuals diagnosed with tetraplegia. At this stage in the research, sexual identity will be generally defined as “awareness of one’s self as a sexual being” (Howard, 2000). Methodology: This research was conducted as a multiple case study, with seven participants recruited by means of purposeful and convenience sampling. All seven male and female participants were living with tetraplegia, English-speaking, at least 18-years-old, and had a history of sexual experience before their injury. Due to the focus on clearly identifiable cases within set boundaries, a multiple case study was used. Researchers and participants met for two in-depth, semi-structured interviews, and their contributions were then analyzed for themes using a within-case analysis. Each within-case analysis was compiled into a matrix for a cross-case analysis. Results: Cross-case analysis yielded several themes that were prominent across the majority of the participants. Participants reported a rediscovering of bodily sensations, the necessity of communication, the importance of support groups, changes in libido, utilization of adaptive sexual toys, coping with shame, self-advocacy, and sexual education. Conclusions: This research was conducted to explore the experiences of sexual identity reconstruction in individuals with tetraplegia. Future research might address the sociocultural and economic supports and barriers to reconstructing a sexual identity post-trauma. The results of this research may contribute to occupational therapy literature on the unique perspectives of individuals with tetraplegia and further define the role of occupational therapy in sexual identity reconstruction of individuals with tetraplegia.

11:30–11:50 am

Jonathan Beran, Olivia Kardos, Jamie Bodie, Occupational Therapy

Substance Use in the Food Services Industry: A Narrative Analysis
Faculty Mentor: Claudia Peyton, Occupational Therapy

Problem: Each year the accommodations and food services industry ranks highest for illicit drug use and substance use disorder (SUD). SUD in the workplace is considered a serious issue with major social and economic implications. Occupational Therapists (OTs) view the consequences of SUD
among employees as having a negative impact on instrumental activities of daily living and occupations such as health management and maintenance, social participation, rest and sleep, and job performance. Purpose: The purpose of this study is to describe the chronology of substance use of seven food services workers. The narrative design was used to reveal the participants’ experiences with substance use across time, and explore interpretations of meanings for each story. In this study, substances include alcohol, opiates, stimulants, tranquillizers, inhalants, hallucinogens, and cannabis. OTs are involved in the rehabilitation of individuals with SUD; the results of this study may help to inform how OT may be better equipped to contribute to the work of addiction and recovery. Method: Through semi-structured interviews and the use of a three-dimensional narrative method, the researchers explored the perspectives of seven individuals with experiences in the food services industry who use or have used substances. Results: Participants identified many similarities in personal, social, and contextual influences on their past and present experiences with substance use in the food services industry. Common experiences included using substances as a way of coping with the stresses of the job, substance use normalization within the food services industry, the need for social support, and an uncertainty of how to change within an industry enculturated with substance use. Conclusion: OTs treat clients with substance addictions in a variety of settings. Findings from this study suggest the need for additional research on addressing both the client’s needs and the culture of the work setting.
Despite our progress in diversifying American Literature male privilege continues to dominate the poetry platform and therefore limit the exposure of female poets whose voices need to be heard and shared with the world. I intend to do extensive research and explore the aesthetics of female prison poets in the USA such as Judy Lucero and provide evidence that they are not given equal rights to be published, despite their intelligence and creative imagination. My main objective is to find and display the beauty that female prison poets possess in their creative psyches. Once I find some female prison poetry—which is extremely difficult to find in America—I will align it and thus compare it with male prison poets to prove that women continue to be marginalized in the literary world. My reason for doing this research is to bring an awareness to the lack of equality that female prison poets continue to endure. In conclusion, my goal is to provide substantial evidence that proves female prison poets continue to be treated as second-class citizens despite demonstrating their willingness to write and express their aesthetic uniqueness that is equal to men. Thus, they need to be freed of such literary limitations by publishing companies in America, the land of the free.

Since her conception in the 1941, Wonder Woman has developed into a powerful feminist superhero among the mass media and audiences. However, with times gradually changing, it is apparent that she doesn't represent every type of woman. The way that Wonder Woman has been oppressed and fought for women’s rights differs from other female characters due to her background, race, sexuality, and culture. Wonder Woman's actions differ from the intersectional graphic novel Bitch Planet. Bitch Planet depicts female characters of various backgrounds and who fought for their rights in ways that suited their demographic situation. Wonder Woman and Bitch Planet raises the question of how Wonder Woman and the women of Bitch Planet contribute to the conversation of feminism and femininity in media and popular culture. The purpose of this study is to conduct a comparative analysis on five Wonder Woman issues taken from 75 years (1941-2014) of content and Volume 1 and 2 of Bitch Planet. The comparative analysis is used to observe how the women of Bitch Planet fight for women’s rights compared to Wonder Woman. This study focuses on the types of heroism that Wonder Woman and the women of Bitch Planet engage in. The study analyzes the physical appearance of Wonder Woman and the women of Bitch Planet such as their costumes, symbols, body types, and skin color. Focusing on appearance reveals how the characters are treated in their society based on their physical characteristics and how they react towards their treatment. This study aims to compare the concept of feminism in both series and to determine the differences between them. The comparison reveals that Wonder Woman can't represent feminism the same way as the women of Bitch Planet due to their difference in race, sexuality, femininity and culture.
Mary Boogaard, History & Social Science
“School Segregation Banned: A Loss in a Simple Justice”
Faculty Mentor: Andrea Johnson, History & Social Science

Historians and educators have since then have asserted the success of the Brown v. Board of Education (1954) decision breaks the mold of African Americans from the Jim Crow Era. In the sixty-three years that have passed since the Brown decision has passed, research on the outcome has asserted that the famous Supreme Court case broke the mold of a caste-like system between the two clashing races that pushed the blacks into the second class citizen rank, stood as the success for community breaking through the color barrier for the black students in an attempt to break the cycle of segregation, rose up as a political symbol of unity between two races with the Supreme Court and Presidents deliberately pushing the social issue of segregation to the forefront of the mass media public; but most importantly, a failure to American students in the regards of creating the opportunity to thrive in a racial diverse educational environment. Despite the overwhelming success that historians and politicians have boosted over the years, the Brown decision failed the public education students since the introduction of residential segregation and the growing gap in wealth between Whites and African Americans.

Christine Crane, Humanities
Modernity, Wahhabi Islam and Monarchial Power in Qatar Exhibited in Contemporary Art
Faculty Mentor: Patricia Gamon, Humanities

Qatar, located in the Middle East, is a small economically advanced and internationally respected country, governed by the Al Thani family—a hereditary, absolute monarchy. The need for a strong national identity to maintain stability within Qatar while maintaining its tribal and Wahhabi Islamic traditions has led the government of Qatar to promote what this thesis defines as a unique Arab-Islamic condition of modernity. The Al Thani monarchy uses its wealth to promote contemporary art both to maintain its power, and function as a signifier of Qatar’s modernity, progress, and international position as a sophisticated, yet Islamic monarchy within an international global market, where democracy and postmodern sensibilities are the norm. Because the wealth of the Al Thanis has allowed them to play an important role in the international art scene, understanding their influence is important for art critics as well as art aficionados. Al Thani sovereignty is expressed through contemporary art venues, where multiple objectives might be embodied in a single piece of art. In this context, the leadership of Qatar engages in art in two ways. They purchase culturally important art pieces from Western and Arab artists that function as tools of cultural diplomacy in Qatar, raising its global standing, and promoting the creation and distribution of art by Qatari artists. At the same time, the Al Thani suppress art that does not contribute to their definition of Arab-Islamic modernity, thereby reinforcing the political and religious authority of the royal family. This presentation discusses examples of contemporary art in Qatar, not to critique the quality of the art, but to survey the function of art as cultural diplomacy while reifying the Al Thani modernist goals within a regional narrative, using art to perpetrate a sophisticated Islamic identity, while appealing to an international public.
The 1922 Moscow production of Fernand Crommelynck's farce The Magnanimous Cuckold, directed by Vsevolod Meyerhold with sets and costumes by the avant-garde Constructivist Liubov Popova, is regarded as a theatrical milestone. Yet critics have largely dismissed the play itself as a non-political "boulevard comedy." This thesis argues that Crommelynck’s intent was in fact political, reflecting his post-World War I doubts as to the supposed superiority of European culture. Meyerhold seized on that theme and enhanced it with a bare bones “workers’” production skewering the bourgeois West. His political intent was amplified by Popova’s set and costumes, which embodied the Constructivist program of inculcating socialist values into everyday life through art. Constructivism remains controversial. The artists and the critics who championed them are frequently seen either as proto-Stalinists or as Stalin’s victims. Both views serve to marginalize and trivialize what was in fact a uniquely Russian branch of the early twentieth-century avant-garde. Western artists might have engaged in social criticism, but only the post-Revolutionary Russians had the opportunity to participate directly in building a new, revolutionary society, and to explore the role of art in that endeavor. That so many of these artists were women, like Popova, adds contemporary relevance to their story. As we are reminded on a seemingly daily basis, women in the arts (even successful ones) are still marginalized and trivialized. A fresh look at a neglected farce from a century ago offers new perspectives not only on the past, but on the present and future as well.

10:50–11:10 am

Cristina Medina, English
Politeness, Power, and Gendered Language: A case study on the satirical use of gendered language
Faculty Mentor: Vanessa Wenzell, English

The use of gendered language has been recognized and even exploited as a cultural phenomenon in comedic TV shows. Gendered language as Allyson Jule states is ""the historical patriarchal hierarchy that has existed between men and women, where one (man) is considered the norm, and the other (woman) is marked as other – as something quite different from the norm". (13). "We see the influence of gendered and power language and how it has changed our views on who holds the control in a conversation. This brings up the question; what happens when gendered language roles are reversed for comedic effect? Is the use of specifically masculine/feminine roles in language, a characteristic which males/females are born with or is it one that is acquired through exposure. The purpose of this case study is to explore this question through a discourse analysis of the satirical television show Portlandia. A show, which the use of language is a dominating factor, where characters switch language roles to exert their power. In this data, a male-female friendship use politeness strategies, power and reversed stereotypes to eliminate the preset notion, which are assigned, to gendered language. For is male language the language of power? Examining the control one speaker holds over the other, their use of positive/ negative politeness will allow us to further examine politeness strategies used to avoid and create a Face Threatening Acts (Cutting, E. 2015). We will also look at the reversal of gendered language, and how within this case study it has helped develop the use of politeness strategies. This reversal illustrates the use/misuse of power language. Thus further exploring our stance on this cultural phenomenon.
Melvianne Andersen, English  
*Experimenting with Women and Epistemology in Love’s Labour’s Lost*  
Faculty Mentor: Kimberly Huth, English

In Shakespeare’s Love’s Labor’s Lost, the male characters discuss and attempt to increase their knowledge. They agree to starve themselves of all pleasure to gain wisdom; that is their solution to increasing knowledge. Through disavowing all pleasures and studying books, the men believe that they will be able to more easily absorb and retain the knowledge they seek. The female characters of Love’s Labor’s Lost also embark on a mission for knowledge. They are attempting to gain knowledge about and test the character of the men in the play. The women disguise themselves to find out the true nature of the men, while the men in turn test the women as they disguise themselves attempting to woo the women; books are thus eschewed and wisdom is gained through interaction and testing of characters. The women then become the tester questioning knowledge, as well as the subjects of tests. This paper will argue that even though the standard belief was that women were incapable of controlling their bodies or senses and therefore any examinations of their senses or bodies would be faulty, Love’s Labor’s Lost affords women greater control over the situation as well as their bodies than was the prevalent thought at the time and as such the female body is not susceptible to the same level of questioning as its male counterpart.

Shonte Clayton, English  
*Margaret Fuller: Journey to Selfhood*  
Faculty Mentor: Helen Oesterheld, English

No abstract.
Edward Ordaz, Psychology  
*Effects of Depression as a Predictor of Social Functioning in Adolescents*  
Faculty Mentor: Giacomo Bono, Psychology

Depression is a significant mental health condition on the rise among adolescents in the United States. Depression can affect many different aspects of daily life, including social functioning. This study examines the relationship between depression and personal and social functioning among adolescents across two. In particular, personal functioning was operationalized through the constructs of intentional self-regulation and hope, and social functioning was operationalized through the constructs of perceived social support and friendship satisfaction. The samples for these studies came from students in secondary schools (grades 6 to 12) who participated in a larger study of student wellbeing (not reported here). For both studies, self-report measures were obtained for symptoms of depression, positive and negative affect, hope, emotional regulation (positive reappraisal), friendship satisfaction, intentional self-regulation, and social support from friends and family. General demographic information was also obtained on students. Participants in Study 1 ranged from grades 7 to 12 (N = 185; ages range from 12-17 years). In terms of demographics, the sample consisted of 56% female and was ethnically diverse. Overall, correlational analyses revealed significant correlations as expected between the variables. Multiple linear regressions also found that depression significantly predicted increases in negative affect and decreases in positive affect, in positive reappraisal, hope, in intentional self-regulation, and in perceived social support, but not friendship satisfaction. Mediation analyses will test if depression’s prediction of decreases in intentional self-regulation and hope (i.e., personal functioning) and perceived social support (i.e., social functioning) explain changes in affective well being and positive reappraisal. A second study will conduct similar analyses, but with a larger sample (in grades 6 to 12) to more rigorously test the findings and generalizability from Study 1. Results from these two studies will help us better understand the influence of depression on personal and social functioning in adolescents.

Gerard Donis, Orthotics and Prosthetics  
*Language Barriers in Orthotics and Prosthetics*  
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

According to the U.S. Census Bureau, the Hispanic population is the fastest growing population in the nation. Comparatively, the percent of certified Hispanic practitioners is under four percent. The Hispanic population represents a disproportionate burden of disease resulting in disability. Disability often results in people seeking orthotic and prosthetic services and interventions. One of many contributing factors to health disparities in this population are the cultural differences that exist. These differences make it essential for practitioners to have an understanding and ability to communicate with a patient that may not be able to communicate in the English language. Communication barriers and cultural competency may present challenges affecting the relationship between providers and this population and meeting the patient’s expectations. The purpose of this study is to investigate if Spanish only speaking patients treated by non-Spanish speaking practitioners affected satisfaction among patients due to language or cultural differences. This level of satisfaction is compared to English speaking patients who received care from practitioners that also spoke English. This is to be measured through surveys in which the patient will express satisfaction or dissatisfaction. One of the foundations of quality health care is to guarantee effective communication between patient and provider, specially patients with limited English. Health care provider's cultural competence and sensitivity is a backbone in reducing ethnic and racial disparities. Anderson et al., indicated that cultural competence training programs may help increase awareness among health care providers.
which will facilitate good quality care for patients of different backgrounds (2003). Focused education events in the healthcare field have led to increased cultural competency scores. The orthotic and prosthetic schools are diversifying and will thus host future practitioners who will employ a variety of languages, which will ultimately facilitate patient-practitioner communication and yield better healthcare quality results.

Priscilla Granados, Shirley Tobar, Ivette Zuniga, Dyana Magdaleno, Management
Sustainability Survey Presentation
Faculty Mentor: Thomas Norman, Management and Marketing

Our report was prepared for Dr. Thomas Norman, Professor of Management Theory, by four students in the Fall 2017 semester of MGT 310. In this report, we reveal the results of a recycling survey that was conducted across the CSU Dominguez Hills campus. We discuss and present information about how the survey was developed, how many individuals we surveyed, and the methods we used to collect and analyze the data. We also developed summary charts for each question in the survey to analyze the results. We were asked to collect data about CSUDH student’s attitudes and behaviors towards recycling on campus grounds. The university follows a sustainability policy to help make our campus more eco-friendly. The university takes initiative in improving the way CSU staff and students practice recycling. The tables in this section are based on the results of 37 anonymous students surveyed on campus. For a complete list of questions in the survey, see Appendix A. The data collected from the survey represents approximately .0029% of total CSUDH students.

Joel Ortiz, Computer Science
The Unforeseen Cost of Free Public Wi-Fi
Faculty Mentor: Mohsen Beheshti, Computer Science

The most common way our devices connect wirelessly is via Wi-Fi, it has been in the last 18 years and continues to rapidly grow in popularity and availability. Wi-Fi has found its way into our homes, coffee shops, campuses, and even buses all have networks available to use by anyone with a device capable of accessing wireless networks which today is pretty much everything. This accessibility although is great for use when needing to accomplish tasks that require connection to a network or just simply passing the time, access to Wi-Fi has become essential and almost expected by the general public. The increase in accessibility does come with a cost, as Wi-Fi availability has grown the dangers itself have grown with it. A perfect world is hard to imagine especially when it comes to computing and accessing networks, individuals often assume they are not targets of identity theft or fraud but with the widespread and growth of the wireless networks, the crime has grown as well. Individuals often seek out security flaws and vulnerabilities in networks with malicious intent in mind. There is so much vulnerable data our devices carry, our conversations, photos, financial information, medical records, all sensitive and private information is carried in our devices and if in the wrong hands can cause serious damage. Considering the rapid growth of Wi-Fi and the criminals who seek out the networks with flaws and vulnerabilities this project is intended to raise awareness and bring to light the issue with the rapid growth of Wi-Fi that is accelerating more than ever before and provide suggestions and solutions on how to combat and protect oneself from being a victim of cyber-criminal activity and to demonstrate the common attacks that are used in places we use Wi-Fi the most outside of our homes on unsecured public networks.

Wendy Garcia, Social Work
Protection Orders for Latina Domestic Violence Survivors: Are they really effective?
Faculty Mentor: Susan Einbinder, Social Work

Domestic Violence is a social issue that is affecting more Latina Women each year. Latina women face cultural and social barriers that affect how Latinas understand domestic violence, or these
barriers restrain them leaving the relationship. Studies have identified seven as the estimated number of times that it takes women to leave the abusive relationship. Although, studies identify cultural and social barriers as hindering Latinas chances of leaving the abusive relationship, there are other barriers that are delaying Latina women from leaving. Latinas also face barriers while they try to obtain restraining orders against the alleged perpetrator. This study aims at exploring the reasoning behind Latinas not pursuing a restraining order based of the experiences of police officers, legal attorneys, and Domestic Violence advocates. This study will take a qualitative approach and conduct interviews to collect information from professional service providers whom serve domestic violence victims. The information provided from the participants who help Latina victims with the processes of restraining orders will bring a different understanding on how effective the process is. Furthermore, there could be new implications on how the processes of getting a restraining order, may be leading to ineffective results for Latina victims. The findings from this study can help domestic violence service providers get a better understanding on how to assist Latina victims, more important as the Latino population is increasing, it is important to ensure that services are culturally adequate for Latinas.

Ivy Wolfe, Geography

How restroom friendly is existing CSU Dominguez Hills Campus?
Faculty Mentor: Parveen Chhetri, Earth Science and Geography

CSU Dominguez Hills is a large campus containing many buildings. The current map provided by the school doesn’t contain any information about restroom locations throughout the campus. For a new student, the combination of the size of the school and the unknown locations of the restrooms can be intimidating. Therefore, I am utilizing the existing school map to place restroom locations while also making small improvements as needed to the actual map. First, I have surveyed the school and researched each building to find out where all of the restrooms are located, and collected the Geographic Coordinate using handheld Global Positioning System. Then, using the existing school map, GIS software, I have added the locations of the restrooms on the map itself and in the legend using a new symbol to represent them. During the process I have also made any improvements deemed necessary to the map such as removing buildings that are no more exist in the campus. This has created a better looking, more user friendly map for new and existing students to allow for greater knowledge and access of the school and its restrooms. I hope CSU Dominguez Hills campus will include restroom sign and location on existing map in future.

Jeshua Avila, Chemistry

Repurposing an Aminomutase from Taxus plants: Ring Opening of Cinnamate Thiirane to Produce Phenylcysteine
Faculty Mentor: Kevin Walker, Chemistry, Michigan State University

Chronic alcoholics are often diagnosed with elevated levels of blood acetaldehyde after consuming alcohol causing hepatotoxicity and acetaldehydemia. Acetaldehyde is highly toxic, mutagenic, and carcinogenic too. It is found to be active as a local and cumulative carcinogen in the upper digestive tract in humans1. Phenylcysteines are an important class of organic compounds that are potent towards sequestering metabolically generated acetaldehyde during the oxidation of ethanol in vivo. Phenylcysteines are also used in Native Chemical Ligation (NCL) for the synthetic preparation of peptides and protein targets that are naturally not accessible. This process combines an N-terminal cysteine residue with a C-terminal thioester via a trans-thioesterification step, followed by intramolecular S- to N-acyl shift2. In this work, we use TcPAM, a phenylalanine aminomutase, found in Canadian Yew (Taxus canadensis) to bio-catalyze the production of Phenylcysteines from the corresponding thiranes. TcPAM converts (2S)-α-phenylalanine to (3R)-β-phenylalanine in the biosynthetic pathway of paclitaxel, an anticancer therapeutic that contains a phenylisoserine (α-hydroxy-β-amino acid) moiety as the side chain. In addition to being an α/β-amino acid isomerase,
TcPAM also has inherent transaminase activity\(^2\text{–}^4\). Therefore, this enzyme has previously been repurposed to transfer \(-\text{NH}_2\) from (2S)-\(\alpha\)-styrylalanine to 3-phenyloxirane-2-carboxylate (cinnamate epoxide), thus, converting cinnamate epoxide to (2R,3R) and (2S,3S)-\(\beta\)-hydroxyphenylalanine i.e. d- and l-erythro-phenylserine. This work involves exploring the transaminase activity of TcPAM with cinnamate thiiranes instead of cinnamate epoxides, thus extending the substrate scope of the enzyme to produce further biologically important and medicinally relevant phenylcysteine molecules. We will focus on synthesizing various ring substituted thiiranes, and incubate those with TcPAM and measure their corresponding kinetic parameters.

Mariah Rojas, Biology

*Generating Point Mutations in Escherichia coli to Study Bacterial Evolution*

Faculty Mentor: Karin Kram, Biology

Studying the underlying mechanisms of evolution in bacteria can help us to understand not only basic evolutionary principles but also processes such as the increase in resistance to antibiotics. In the laboratory, we can study bacterial cells, such as Escherichia coli, that survive through the bacterial life cycle. Cells that survive death phase, where approximately 99% of the population dies, enter a phase called long-term stationary phase (LTSP). Cells that survive into LTSP often have mutations that allow them to adapt to this new, stressful environment. Two genes in which mutations frequently arise in these populations are cytR, which controls the utilization of nucleosides as a carbon source, and sspA, which is essential for survival in stressful conditions. The repeated mutation of these genes implies that they may play a role in survival in and adaptation to LTSP. Our goal is to recreate the identified mutations in cells with otherwise unchanged genomes. This will allow for the closer study of how the mutations alter the functions of the proteins encoded by the genes, including interactions with other genes. We will use multiple genetic techniques to generate the mutations in the desired genes. After the mutation has been confirmed via DNA sequencing, we will then determine if the mutations are advantageous to the cell, and if so, how they function. This will allow us to see if these genes contribute to the ability of cells to adapt to long-term stationary phase.

Arlene Morales, Anthropology

*An Interaction Analysis of a Khmer Language Class*

Faculty Mentor: Susan Needham, Anthropology

In the Anthropology Ethnographic Methods and Techniques course, our group conducted an ethnographic study in Cambodia Town on the recreation of language learning among the Long Beach community. The study took place in the intermediate Khmer language class at the Mark Twain Neighborhood Library. A series of field site visits was executed to collect ethnographic data that included: a census, interaction analysis, and interview. We further conducted observation and in the process became participant observers that allowed for a deeper analysis of the social interactions between teachers and students, as well as, classroom structure and social hierarchy. By discussing our experiences from an emic and etic perspective, we describe the communication style and transmission of language knowledge that occurs within class settings. The purpose of our study is to provide a more complete understanding and awareness of how the study of social interaction requires consideration of both language and culture.

Samuel Ong, Sovandany Wang, Health Science

*Unfair Experiences on General Health Status*

Faculty Mentor: Archana Sharma, Health Science

Background: According to Chae et al.(2008), their analysis reported that “unfair treatment was significantly associated with having a history of alcohol abuse/dependent disorder.” Despite the significance studies between specific health issues, general health is also major concern in
Objective: In order to examine the influence of stress from unfair experiences on general health status, this study examines a sample of adults in California.

Methods: Data from the 2015 California Health Interview Survey, which included 21,034 respondents, were used. The respondents were asked about unfair treatment when getting medical care over their lifetime and their general health (CHIS, 2015). Pearson-Chi Squares test and Binary Logistic Regression was performed to evaluate the influences of unfair treatment on their general health.

Results: Findings show that the influence of stress from unfair experiences on general health status is statistically significance \( p<0.05 \). Over 2400 (11%) of respondents reported sometimes or often having been treated unfairly when getting medical care over their lifetime. Over 4,470 (23%) of respondents reported fair or poor levels of general health. The Pearson Chi Square Test had significant results: experiencing stress from unfair experiences is associated with general health status \( (\chi^2=926.8; \text{df}=12; p<.05) \).The Binary Logistics Regressions also had significant results: Those who reported having been treated unfairly in getting medical care over their lifetime were less likely to have excellent, very good or good health \( (\beta= -0.89; p<0.05) \).

Conclusion: Results suggest that there is a relationship between stress from unfair experiences and general health status. The importance of reducing stress from unfair experiences and improving general health, policies need to be implicated in order to have knowledge individual's face in medical care. Examining the different sociodemographic can provide exposure on the group who are suffering from poor general health due to unfair experiences.

Maria Nava, Mahsa Malinehei Seyedd, Anthony Joseph Gomez Diaz, Carol Haggerty, Barry R. O'Keefe, Biology

Discovery of Cytotoxic Natural Products from the National Cancer Institute Repository using a Sulforhadamine B Colorimetric Assay

Faculty Mentor: Patrick C. Still, Chemistry

This project involves the discovery of structurally novel cytotoxic botanical natural products. Plant natural products, which can be described as metabolites that are not directly involved in growth or reproduction but typically have biological effects in humans, are a major source of FDA approved drugs. As part of an on-going natural products discovery program in the Still Lab, we have screened three botanical extract samples from the National Cancer Institute (NCI) Active Repository Program, using an in vitro cell-based sulforhodamine B (SRB) assay system. The parameters in the SRB screen used in this study rely on the ability of SRB to bind stoichiometrically to the protein components of cells with the amount of dye extracted directly proportional to the cell mass. We found that extracts of Pseudospondia microcarpa, Unonopsis sp., and Mostuea brunonis inhibited the growth of U87 glioblastoma cancer cells. In particular, a chromatographic subfraction of M. brunonis containing the quinolone alkaloid, pumiloside (1), showed a U87 glioblastoma cancer cell survival rate of 25.7%.The results obtained here are being used to direct isolation efforts towards a compound with structural novelty, and has applications towards the treatment of refractory brain glioblastoma (GBM) cancers.

Bianca Medina, Angelica Rivera, Kahlie Venus, Psychology

A preliminary analysis of depression, emotion regulation, decision making, sleep hygiene, and sleep quality in college students

Faculty Mentor: Karen Wilson, Psychology

Due to an increase of external demands in college, students often have variable sleep schedules, which could potentially increase the risk for behaviors that can negatively affect daily functioning. Poor sleep hygiene and sleep quality have been associated with negative effects on emotional functioning and cognition. Poor decision making skills, in particular, has been linked to an inability to
use emotion-learning systems, which provide information about the outcome of decisions and their possible emotional consequences. This suggests that college students who have poor sleep habits may be susceptible to experience a variety of consequences, including symptoms of depression, difficulty managing emotions, and problems making decisions. The purpose of this preliminary analysis was to examine the relationship between sleep hygiene, sleep quality, depression, emotion regulation, and decision making ability in a sample of college students. It was predicted that poor sleep hygiene and poor sleep quality would result in higher levels of depression, and decreased emotion regulation and decision making abilities. The participants (N = 16) consisted of 5 males (31%) and 11 females (69%) from a Southern California University; they ranged from 18-39 years of age (M = 25.19 years) and varied in ethnicity. Data was collected in two in-person sessions, across a minimum of seven days, as part of a larger study evaluating college students with varied levels of sleep behavior awareness. The results from regression analyses were not significant. The small sample size of this analysis may have contributed to the lack of significant results. Significance may be found for these variables in the larger, ongoing study.

Isai De Los Angeles, Art and Design
Reducing Arrests and Fines of Modified Car Owners in Los Angeles Car Culture
Faculty Mentor: Devon Tsuno, Art and Design

The Los Angeles Police Department targets car enthusiasts who drive cars by pulling them over, resulting in arrests and fines. The car culture scene in Los Angeles, California is an expansive community and network of diverse people who find similar interests in illegally modified automobiles. This art project is research on how to use art to decrease the number of illegally modified vehicles in Los Angeles County and increase officer training on the differences between legally vs. illegally modified custom cars. Car culture engulfs different types of vehicles with different development histories. Most individuals who are part of the car culture include themselves through different forms of modification to their vehicles. My drawings recreate some of the key features modified both on and in vehicles, which causes LAPD officers to pull them over. My art project enhances aspects of a vehicle with side-by-side comparisons of illegal vs. legal modifications done to vehicles and will be distributed to the LAPD and prominent car clubs to help reduce the number of arrests and fines in this community.

Briana Weir, Celeste Lopez, Maribel Vidauri, Sociology
“Catfish” and “trust Issues”: Exploring attitudes toward online dating for millennials
Faculty Mentor: Katy Pinto, Sociology

Although there has been research supporting online dating and its rapid increase over the years, there has not been very much research conducted on social media and its effects towards attitudes about online dating. With the dynamics of how new relationships are forming with the use of technology, it is important to know the effects social media has in relation to online dating and it possibly becoming the new way of looking at traditional dating. To examine this research we used a survey which focused on 76 participants’ attitudes regarding online dating. Along with their usage of social media, and how open they are toward online dating. While online dating may be growing according to previous research, our research showed that both men and women are not as open to online dating. With the usage of social media growing, there has also been a negative stigma attached to online dating. There was a trend in many of the participants’ answers who aren’t open to online dating because they believe it is dangerous. This is due to the increase of people being raped, stalked, and catfished through the use of social media. In the end, we do not find a positive relationship between social media use and online dating, despite its steady rise.
Molly Powell, Anthropology, Earth Science and Geography
*Long Beach Mural Projects of 2017 Mapped with ArcGIS*
Faculty Mentor: Parveen Chhetri, Earth Science and Geography

Although there has been research supporting online dating and its rapid increase over the years, there has not been very much research conducted on social media and its effects towards attitudes about online dating. With the dynamics of how new relationships are forming with the use of technology, it is important to know the effects social media has in relation to online dating and it possibly becoming the new way of looking at traditional dating. To examine this research we used a survey which focused on 76 participants’ attitudes regarding online dating. Along with their usage of social media, and how open they are toward online dating. While online dating may be growing according to previous research, our research showed that both men and women are not as open to online dating. With the usage of social media growing, there has also been a negative stigma attached to online dating. There was a trend in many of the participants' answers who aren't open to online dating because they believe it is dangerous. This is due to the increase of people being raped, stalked, and catfished through the use of social media. In the end, we do not find a positive relationship between social media use and online dating, despite its steady rise.

Ricardo Chavez, History
*The Inner Struggle in the Chicano Movement*
Faculty Mentor: Andrea Johnson, History

The monumental push of the Black Civil Right Movement caught fire in southern states the movement become a push to fight against Jim Crow Laws. Sparked by the Black Movement other of color also want to step against oppression. Mexican American were oppressed similar to the Black in the south. After seen African American fighting for equality, the Mexican American had awakened and acknowledged that they could also fight for justice. This lead to the Mexican American stands up for themselves to fight against oppression. In 1960 The Chicano Movement emerged from multiple issues of political and civil right struggle such as political representation, racism and discrimination, education and Vietnam War. Chicanos/as were at the bottom of the education ladder they were degraded in all level in their history, heritage, and culture. Chicano students were not allowed to speak Spanish classes if so they were punished on school grounds. The Chicano Movement histography has been structured around male figures, Reis Lopez Tijerina. Rodolfo “Corky” Gonzales and Cesar Chavez. The contribution of these male figures plays a role in the Chicano Movement and historian narrative the Chicano movement around these heroes instead including that many participating in the movement. Scholars that have written about the Chicano Movement have given Chicana women a little bit of recognition and have claimed that women were not a part of the movement. That Chicana women did not get awareness until later on, but historical documents have shown Chicana woman were a part of the movement since 1968. As the Chicano Movement decline, the Chicana Feminist Movement gave rise to in the Women Second Wave movement.

I examine the inequality of Machismo that Funded the Chicano Movement; machismo has three sources Religion, Tradition, and Culture. These areas led to an opening within the Movement itself which resulted in the creation of the Chicana Feminist movement in their space.

Alexandria Tucker, Biology
*Role of Nicotine and High Fat in Triple Negative Breast Cancer*
Faculty Mentor: Shehla Pervin, Biology

Breast cancer remains a complex disease where compounding effects of genetics with environmental factors contributes to its development. Nicotine, a key component of cigarette smoking and nicotine patch, has been found to influence breast cancer development by increasing mammary cancer stem cells (MCSCs) population, angiogenesis as well as migration. In addition to nicotine, obesity, a fast
increasing epidemic also increases the risk for breast cancer development, where high fat diet promotes macrophage infiltration as well as MCSCs. Although a large number of people world-wide who smoke are also obese, effect of nicotine and high fat diet on breast cancer development remains poorly understood. Understanding these mechanisms is very important particularly in African American (AA) population where both obesity and smoking is highly prevalent in addition to development of a very aggressive form of triple negative (TN) breast cancer that are devoid of estrogen receptors (ER), progesterone receptors (PR) and Her2neu. Our lab has found that nicotine and high fat have distinct gene signatures with respect to MCSC populations and cytokine production. We found nicotine and palmitate increased embryonic SOX2 and aldehyde dehydrogenase1 (ALDH1) expressing MCSC populations respectively. In addition, nicotine increased production of anti-inflammatory cytokines IL13/IL4 while palmitate increased macrophage infiltration and inflammatory cytokine production. Since nicotinic-acetylcholine receptors (nAchR) contribute to the oncogenic effects of nicotine, I examined the effects of Mecamylamine, an antagonist to nAchR, on nicotine and palmitate treated AA TN breast cancer cell lines. I found that Mecamylamine reduced aggressive properties of AA TN breast cancer cells exposed to nicotine and palmitate.

Hawk McFadzen, Sociology
Food Access, its Impact on Healthy Eating in Los Angeles, and the Role of Urban Agriculture in Changing Consumer Behavior
Faculty Mentor: Matthew Mutchler, Sociology

Food access is a complex and multifaceted topic, as barriers to healthy food can vary greatly by individual and by community. One aspect that is often studied, yet seems important to monitor is how food access affects dietary habits. Previous literature shows that food access is worse in low-income, urban areas with non-white populations. We were curious to know if the ease and convenience with which one can access fresh produce affects the healthfulness of their diet. For the purpose of this study, we define food access by availability and affordability of fresh fruits and vegetables. To research the matter, we analyzed the 2014 California Health Interview Survey data. We first conducted a set of bivariate analyses to discover the disparities in food access by race. We then examined the correlations between food availability and affordability and the healthy habit indicator of fast food consumption.

Our results showed that racial disparities in food access persisted in California in 2014. Specifically, our cross-tabulation showed that whites had better food availability and accessibility compared to Latinxs and Blacks (p<0.001). We also discovered a notable correlation between increased availability of affordable, fresh produce and reduced fast food consumption. Specifically, the cross-tabulation showed that those who reported to always find affordable produce consumed significantly less fast food (p<0.001).

Lastly, we explored the resurgence of urban agriculture in metropolitan areas as a way of alleviating the dependence on certain aspects of commodity bundles. Much research points to creative and state sanctioned urban agriculture as a viable solution to hunger, especially when practiced cooperatively. Additionally, through the community-building aspect of urban farm cooperatives, food insecurity can be treated secondarily on a local level.

Eduardo Martinez, Art
Visual Research into the Evolution of Poisonous Flowers
Faculty Mentor: Devon Tsuno, Art and Design

Nature evolves and makes strange things. This series of paintings explore the evolution of poisonous flowers. The visual research presents a future, hypothetical evolutionary scenario where flowers have evolved to harm humans. My research began with the article by Justin Brower, Hydrangea Highs and Cyanide Lows, where he states, "The buds, flowers, and leaves all contain the glycoside
amylodalin...broken down in any number of ways to produce cyanide, the same chemical used in old gas chambers". Flowers like the hydrangea contain cyanide that can harm humans and animals when consumed. Using visually attractive colors and flower forms in conjunction with deadly poison, plants evolve as a tool of survival and become protective sanctuary for small creatures who are protected by the poison.

How will plants like the hydrangea continue to evolve in response to human threats on nature? In my paintings I present a future ecosystem where hydrangea like flowers further evolve to inject venomous purple ink into humans, and other threats triggering hallucinations and DNA modification. I carefully use different values, temperature, and saturation of colors to make the flower attractive, illustrating that nature will further develop attention grabbing elements that attract small animals. These brightly colored flowers notifying them that these evolved flowers are sanctuary from human threat. Stems grow out of these evolved flowers and spread about the canvas, designed in patterns of black and red stripes to demonstrate their potency. They have the ability to shift in color from blue violet to purple and from purple to red indicating nature must drive them to be unique and always changing. My flower paintings are a creative exploration of how nature and evolution are driven by human influence.

Omeed Haji-Amiri, Biology
The Effects of Climate Change on Oenothera pallida
Faculty Mentor: Kathryn Theiss, Biology

Currently, we lack knowledge on the population genetic diversity in many plant species threatened by climate change, and therefore, we cannot adequately predict how these species will evolve. In order to adequately assess the potential extent of inbreeding as well as the base levels of genetic diversity across taxa, we will ultimately need to sample many hundreds of plants across tens of populations per taxon. Microsatellites are regions of DNA with repetitive motifs of 2 to 8 base pairs. They are co-dominant and have high mutation rates, and primers are often transferrable across closely related taxa. They are also cost effective at the scale of sampling required to fully explore the question of genetic diversity at this scale. Each taxon is predicted to have unique microsatellite alleles, and therefore can be used to distinguish the taxa. We are developing a minimum of 10 microsatellite markers that will amplify across all 19 taxa in the Anogra+Kleinia clade of Oenothera. Typical population genetics analyses use between 10 and 20 markers depending on the taxon sampling. This will allow us to directly compare genetic diversity both across populations within a taxon and also across different taxa. Within Oenothera, microsatellite markers have been developed for two species, O. biennis and O. harringtonii; however, there is limited transferability across these two species because of probably mutations in the primer annealing sites. We tested all available primer sets in Oenothera pallida ssp. pallida to assess their potential utility. 13 of the primer pairs consistently produced results and we are now analyzing these products to make sure that they are amplifying the correct region of DNA. Most of these primers showed variability across different populations of Oenothera pallida and show promise in allowing us to assess genetic diversity.

Eugene Cox II, Psychology
Google Glass: Analysis of Arousal on Recording Interviews
Faculty Mentor: Thomas Norman, Management and Marketing

Managing stress and anxiety is part of the preparation for potential stressful events like job interviews and college examinations. Existing research on measuring interview anxiety has showed promise by using self-report measures and physiological arousal this study hopes to expand literature on physiological and psychological arousal during a simulated interview. This current study hopes to examine physiological and psychological arousal difference in interview simulations with the use of google glass (n=10) the use of video camera (n=10), and participants who are not recorded in the
control group (n=10). To study physiological arousal, we will measure skin conductance and heart rate with the use of physiological sensors called, Galvanic Skin Response and Photoplethysmogram. A job interview will be simulated using typical questions for a job interview in retail. Pre-interview anxiety will be measured using State-Trait Anxiety Scale, the subscale for the pre-test will be using S-Anxiety to evaluate current levels of anxiety. For post-interview, this study will repeat the S-Anxiety items and the second subscale of State-Trait Anxiety, (T Anxiety) to measure predilections towards anxiety. This study will determine if there is significance amongst levels of physiological and psychological arousal during a job interview caused by recording.

Marialuisa Flores-Jacobo, Mariana Hernandez Licon, Aylin Arriola, Chemistry
The Size Control of Copper Sulfate Pentahydrate by Antifreeze Proteins
Faculty Mentor: Sen Wang, Chemistry

The particle size distribution and its size are an important characteristic of drugs, materials, fungicides, and herbicides. The size will determine their applications. We will develop proteins and/or peptides as highly efficient additives with a molar ratio of additives vs crystals as 10-6 to control the size and shape of fungicides/herbicides and pharmaceutical agents. Copper sulfate pentahydrate is a fungicide and herbicide. The smaller size copper sulfate pentahydrate has been made by grinding mills for many years. Mills not only cost a lot of energies but also make a lot of dust.

Antifreeze proteins (AFPs) can bind to ice and control the growth of ice crystals. AFPs have provided a very intriguing example of protein-crystal interaction in nature. Currently, we discovered that AFPs can efficiently inhibit the nucleation and modify the single crystal growth of copper sulfate pentahydrate. The smaller size crystals available by using a very tiny amount AFPs are better than these by mills. The work will reduce the cost of making copper sulfate pentahydrate at the right size as well as making no dust for industries. Further work will explore the mechanism of AFPs in the inhibition of the nucleation of copper sulfate pentahydrate, which will define the structural range for which AFPs can recognize for copper sulfate pentahydrate and understand the mechanism of the protein-ligand interaction at the liquid-solid interface.

Alejandra Regla-Vargas, Chicana/o Studies
Cyber Activism: A Tool for Transformational Resistance
Faculty Mentor: Corina Benavides- Lopez, Chicana/o Studies

It can be argued that the pervasiveness of the world wide web has changed the dynamics of activism. Individuals with access to cyberspace have the ability to create social and political change with fewer resources. This qualitative study seeks to explore how women challenge Eurocentric body standards by engaging in cyberactivism. Using Transformational Resistance (Solorzano & Bernal, 2001) as a theoretical framework, this project uses data collected from Instagram and Facebook entries to capture the ways in which women resist Eurocentric body standards. This analysis may provide insight as to how women of color respond to and heal from the pressures of attaining Eurocentric body standards.

Elvis Carillo, Earth Science and Geography
Carson’s Natural Hazards: How vulnerable is the CSUDH campus and are we prepared for a natural disaster?
Faculty Mentor: Parveen Chhetri, Earth Science and Geography

The well-studied San Andreas Fault extends through California and accommodates movement between the North American and Pacific tectonic plates. Although Southern California lies within this plate boundary zone, the region has been “tectonically quiet” for 100(+) years and is currently overdue for a large earthquake event. How well is the CSUDH campus prepared for the next
earthquake? CSUDH is within a one-mile proximity of the Avalon-Compton fault. Based on United States Geological Survey (USGS), 35% of the city of Carson is above a liquefaction zone. Liquefaction zones are comprised of weak, saturated and unconsolidated sediment that behaves like jelly during an earthquake, thus resulting in elevated urban seismic risk. During the 2017 Great California Shakeout, a survey was conducted in class and it was evident that many students were unaware of the drill, evacuation zones, and the proper procedures during a natural disaster. Our campus evacuation map, which is outdated, was difficult to analyze. There is a need for stronger maps to minimize casualties. This research creates a digital map utilizing ArcGIS and various sources from ESRI, USGS, US Department of the Interior, and ArcGIS lab work to create an educational map of Carson’s geography and the CSUDH resources. The goal of this research is to create an interactive map that will provide precise information for the CSUDH community. Handheld GPS and ArcGIS software were used to map emergency communication towers and fire hydrants on campus. In addition, ArcGIS was utilized to digitize our current campus map to create boundaries of the planned evacuation zones and routes. CSUDH clearly needs an interactive map that provides accessibility, updated information, and geo-locations that can be used by various applications (e.g., Toros mobile app) to ensure maximum campus safety.

**Whitney Weis, Physics**

*Using JavaScript to Aid Students in Comprehension of Electric Dipoles*

Faculty Mentor: Ximena Cid, Physics

Studies have shown that students’ abilities to retain and comprehend concepts in physics are enhanced by using interactive engagement teaching methods. While some subjects within physics are easily demonstrated, such as objects in motion, others subjects present challenges for students to grasp, such as fields (e.g. electric fields, magnetic fields, and gravitational fields). For more abstract concepts (concepts which cannot be physically observed), it can become difficult to give students an experimental approach to learning. I’ve created a program using the JavaScript language within the online GlowScript environment. This program depicts two different representations of the electric field created from two oppositely charged particles (dipole-electric field). The user can switch between the vector field representation, as well as the field line representation of the electric dipole. Additionally, for the vector field representation, the program allows the user to clearly see the superposition of the vector fields created from each independent charge, as well as the total field. We hypothesize that by using this 3D simulation, we can reduce cognitive load and allow for easier comprehension of the concept of dipole-electric fields. Once this program is complete, formal evaluation of this program will be assessed in the classroom.

**Hailey Dunning, Orthotics and Prosthetics**

*Endurance After Unilateral Trans-tibial Amputation*

Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Hypothesis: Investigate the effect an amputation has on endurance and whether having a unilateral trans-tibial amputation causes you to have a lower endurance than someone without an amputation between the ages of 18-30. Background: Outcomes measures such as the 6-Minute walk test (6MWT) have been used by healthcare professionals to acquire evidence-based knowledge. Test like can be used to predict VO2, recovery after heart or lung surgery and endurance. Methods: 5 persons with unilateral trans-tibial amputation and a K3 level and 10 control participants performed a 6MWT according to the ATS Protocol. On an outdoor track. Results: The scores for the 6 Minute Walk Test for the group with amputation was 585.8m ± 15.77. The average of the group without amputation scored an average of 671m ± 21.171. P>.05. Discussion: Lack of significance in data is most likely due to the uneven sample sizes for the population. The mean trends, however, pointed towards proving the hypothesis correct. Conclude from other research that the 6MWT is considered a valid test even though p-value does not support it.
Adriana Feinberg, Social Work
The Effects of Intimate Partner Violence on Men and Women: A Comparative Study to Enhance Gender Specific Mental Health Treatment for Men
Faculty Mentor: Susan Einbinder, Social Work

Men have been and will continue to be victimized by Intimate Partner Violence (IPV), but little is known about how they experience this event, how they are affected, how many seek psychological assistance, and whether these helping services help or impair their recovery, since commonly used treatment protocols were developed for women survivors. The purpose of this research is to generate knowledge to better understand male survivors of IPV to fill this gap. The researcher will use semi-structured interviews with male survivors of IPV to gather qualitative data in order to enhance gender specific treatment. Each interview will be transcribed, coded and analyzed for common themes.

The results of this research have not been obtained yet; however, it is hypothesized that male survivors of IPV will report differences in processing and reported severity of symptoms based on gender. Ultimately, if the findings suggest a common theme, this would suggest that treatment for survivors of IPV cannot be universally applied. With these findings, it would warrant further research to establish effective treatment for male survivors of IPV.

Joseph Ramos Flores, Jessica Abaya, Yuliveth Cortez, Health Science
Neighborhood Safety and Food Security
Faculty Mentor: Achana Sharma, Health Science

Background: Food security is defined as having access to enough safe, healthy and nutritious foods for an active and healthy lifestyle (USDA, 2017). The objective of this study is to understand the association between food security and neighborhood safety among adults. As a group, we hypothesized that there is a positive association between neighborhood safety and food security.

Methods: This study was a secondary data analysis from the 2015 California Health Interview Survey. The sample included 20,595 adult participants ages 18-65 from California. The study asked adults to state their access to fresh fruits and vegetables in their neighborhood and their perceptions of neighborhood safety. We performed descriptive analyses and binary logistic regression. Our independent variable was feeling of neighborhood safety. Our dependent variable was access to fresh fruits and vegetables.

Results: Approximately 53% of respondents reported always feeling safe in their neighborhood and 47% did not. The individuals in these neighborhoods responded that 78% always had access to fresh fruits and vegetables and only 22% did not have access. Binary logistic regression had significant results: as neighborhood safety increased among individuals, food security also increased; those who felt safe in their neighborhoods were 1.4 times more likely to always have access to fresh fruits and vegetables (p<0.001).

Conclusion: Our research suggests there is an association between food security and neighborhood safety. We believe a lack of community cohesion influences status of food security among adults in California. This study highlights a need to conduct future research to gather information about other potential obstacles that may affect access to fresh food and vegetables not just for adults in California but for every individual in the United States. Regardless of the social determinant being violated, being food secure must become acknowledged as a full-on right for a meaningful quality of life.

Katia Salgado, Biology
Characterization of Genes Necessary for Escherichia coli survival in Long-Term Stationary Phase
Faculty Mentor: Karin Kram, Biology

Bacterial evolution can lead to antibiotic resistance, new forms of pathogenesis, and more efficient
production of industrial products. Experimentally evolving bacteria in the laboratory helps us better understand these processes, as well as basic evolutionary principles. Escherichia coli has the ability to adapt and survive during long-term stationary phase (LTSP), which follows lag, exponential, stationary, and death phases in the bacterial life cycle. During this period 99% or more of the cells in the culture have died, and a few cells possess mutations that allow them to survive and grow. Although some genes important for this survival have already been identified, there are likely many more genes important for this phenotype. The main objective of this study is to identify genes that play an important role during LTSP survival in E. coli. First, we identified genes that were only expressed during LTSP using RNA-seq data, deleted them, and competed the mutant. We chose five of these genes to characterize: entC, feaR, glcE, prpB, and ytfS. Result showed deletion of glcE or prpB provided no significant changes, whereas deletions of ytfS, feaR or entC did have an effect. Deletion of feaR had the most significant results: wild-type cells significantly outcompeted the mutant strain, indicating a possible importance of feaR during survival of E. coli during LTSP. feaR is activated when the cell experiences catabolic repression and high levels of succinate. FeaR controls a pathway for removing potential toxic aromatic compounds, as well as synthesis of phenyl acetate, which could be an essential mechanism during LTSP survival. Preliminary data suggests that addition of phenyl acetate, produced when FeaR activates its downstream genes, to the competitions at least partially abrogates this phenotype. Combining RNA-seq and genetic data can lead to more accurate identification of LTSP-specific genes than using either type of data alone.

Autumn Henderson, Biology
Higher Expression of Motility Related Genes in Evolved Escherichia coli
Faculty Mentor: Karin Kram, Biology

Understanding how Escherichia coli adapts to its environment helps to understand basic mechanisms of evolution, and may help develop more targeted treatments for infections. It has previously been shown that incubating E. coli for long periods of time – days, weeks, even years without the addition of nutrients – allows cells to acquire mutations that are selected for in this stressful environment, ultimately leading to evolved populations that are better adapted to these conditions. What we do not know is exactly what genes or processes have changed in these adapted cells. We set out to determine differences in gene expression between unaged and 10-day old cells. The unaged wild-type E. coli cells and 10-day old cells were grown for four hours in LB media, when gene expression levels are at their highest during the life cycle. Gene expression levels of the cells were then analyzed using RNA sequencing, which measures how much of each transcript from each gene is present in the cell. The RNA sequencing data showed higher expression of genes related to motility (chemotaxis, flagellar, and motility protein genes) in the 10-day old cells. From this data, we hypothesized that the 10-day old cells would be more motile than the unaged cells. We will test this hypothesis using a motility assay, where we will culture the unaged and 10-day old cells separately in a semi-solid agar and let them grow for 24 hours. After incubation we will measure the distance of travel around the inoculation point to determine if there are differences in motility. If there are distinct differences this can lead us to more questions about what specific gene(s) are causing this increased expression and change in phenotype, and whether this phenotype is responsible for adaptation of aged cells.

Joel Avalos, Hugo Duran, Health, Nutrition and Clinical Science
Dr. Sebi & the Sebian Diet
Faculty Mentor: Andrew Kalaidjian, English

Dr. Sebi, a herbalist, naturalist, biochemist, and pathologist, has personally observed and closely studied plants and herbs located in North, Central, and South America as well as Africa and the Caribbean for over thirty years. His methodology, established with decades of lived experience, is designed to completely heal the human body via the Sebian diet, which consists of herbs, fruits,
vegetables, and natural spring water. After being diagnosed with obesity, diabetes, impotency, and asthma, Dr. Sebi immediately sought healing. Since western conventional doctors and traditional medicine and treatments were unsuccessful at healing his disease in the United States, he traveled to Mexico and met a herbalist, who taught him exactly how to heal himself from disease. Acidity in the human body leads to mucus formations and accumulations in vital organs, which then causes disease. The body organs that are most affected by acidity are the liver, colon, gallbladder, kidneys, lymph glands, and skin. Dr. Sebi has learned and teaches about a strict vegan diet, known as Sebian diet, that includes natural remedies for cleansing and detoxifying the body from long years of toxins. This type of cleansing moves a body from the state of acidity to alkaline. Further, cell foods restore and heal cell tissue that has been heavily damaged and weakened by acidity. The Sebian diet, which is composed of cell foods with natural origins and vegetation compounds, removes mucus from the body and heals it entirely from disease.

Joel Avalos, Hugo Duran, Health, Nutrition and Clinical Science

Exercise's Effects on the Human Body
Faculty Mentor: Andrew Kalaidjian, English

This research aims to provide the campus community with information about exercise and its benefits. Exercise attributes to greater reaction time, increase in muscle tissue, better stamina, weight loss, and reduces obesity. Those who exercise with a partner or in groups can generate better, if not, faster results because each member is held accountable. There are many reasons to exercise such as to reduce blood pressure, maintain a healthy lifestyle and a healthy body weight. The greater the intensity of exercise, the greater the benefits. The main reasons people do not exercise are due to location, status, personal preference, lack of energy, time, or motivation. Before strategies can be used to overcome this, there needs to be a clear understanding of people’s demographics, prior views/knowledge or experience on exercise, and influences. By targeting and terminating excuses for not exercises, and or external factors, people will be healthier and more active. Exercise as a beginner may not be done in a perfect way, but improvement occurs overtime.

Joel Avalos, Hugo Duran, Health, Nutrition and Clinical Science

The Benefits of Meditation
Faculty Mentor: Andrew Kalaidjian, English

This research aims to provide the campus community with a definition of meditation, its benefits, and importance. Meditation is sometimes used in religious practice for prayer and connecting with a higher being, such as God. Meditation is mostly linked to stress relief, decreased fatigue, reduction in appetite, more relaxed body and posture, and increased alertness and productivity. Meditation is extremely healthy and safe. Some reasons people do not meditate are not enough time, too busy, no safe space, or they do not know where to start. Meditation can be done in a simple way by feeling connected with oneself, being aware of the world around them in the present moment, and not worrying about time, day, or location. Meditation gives the brain a break from all the commitments. It can be done at anytime during the day in short or long periods. Students can meditate before, after, or during the day to increase work productivity, rather than watching television or spending time on social media. Meditation as a beginner may not be done in a perfect way, but improvement occurs overtime, and results are felt instantly.
Lauren Gallegos, Jessica Morales, Neomi Ortiz, Karen Rodriguez, Jocelyn Vicente, Liberal Studies
*The Inner-Workings of the Community of Carson*
Faculty Mentor: Jen Stacy, Liberal Studies

Yuliveth Cortez, Health Science
*Child Marriage Among Young Girls in Bangladesh*
Faculty Mentor: Archana Shama, Health Science

Background. Though child marriage refers to boys and girls, most times girls are those forced to marry before reaching age 18 and who suffer more serious consequences during marriage. While child marriage is illegal in Bangladesh, local government often does not enforce the law. Over 50% of girls are married and/or still marry before 18 (World Bank, 2017). Objective. The purpose of this literature review is to examine the practice of child marriage among girls in Bangladesh and propose an action plan to alleviate the issue. Findings. Typically, girls who come from families living in poverty and who live in rural areas where traditional gender roles are enforced are most vulnerable. Marrying at a young age puts a girl at risk for social and economic consequences including suffering from domestic violence, having poor educational and health status, living in continuous poverty with minimal opportunities for empowerment and suffering from sexual and reproductive complications from pregnancy and childbirth which ultimately contribute to high rate maternal mortality in Bangladesh. Conclusion. An action plan to help alleviate this issue includes immediate and long-term solutions. An immediate solution can be to apply similar ideas from a successful intervention in India, Project Jagriti, which seeks to end child marriage using young adolescents who create dialogue on the disadvantages of child marriage. By going directly to schools to meet girls and boys who are at risk for child marriage and convince villages about the dangers of this tradition, they hope to end child marriage. A long-term plan may include partnering with educational systems to train women community opinion leaders to serve as advocates for young girls who are not in school, to educate them about this issue at an early age, to eliminate child marriage and shift traditional gender roles among in Bangladesh.

Lekecia Dorsey, HUX
*Young Adult Science Fiction and the Representation of Young Black Womanhood*
Faculty Mentor: Jane Lee, English

Fictional books and stories are generally where we first encounter the ideas of heroism. For young adult girls of color there is a shocking lack of representation for them as full characters with a range of dimension in western societies. In fact, with young adult fiction this disparity is magnified as book are turned into blockbuster films and television series many young girls of color, particularly black girls, are presented as stereotypes. Through critical analysis of young adult science fiction books or series published within the past 10 years themes of heroism, sexuality, mental health, and black female identity will be explored in an attempt to better represent young black womanhood. The hope is that young adult fiction has evolved to embrace the multifaceted realities of young black girls into science fiction. However, that hope is reserved to explore the realities of how authors choose to explore the main themes of young adulthood though black female characters.
The reliability of real time emergency applications for IoTs is one of the biggest challenges in wireless telecommunications since fast response is required in critical situations (fire detection, terrorist attack, etc). Solutions on minimizing loss recovery and latency with higher connecting reliability of IoTs are critical in IoTs. This paper focuses on one of the solution to improve reliability of emergency applications under IoT technology, called Adaptive Joint protocol based on Implicit ACK (AJIA) mechanism for packet loss recovery and route quality evaluation in the IoT. In this mechanism, the overhearing feature is used, characterizing the wireless channels, as an implicit ACK mechanism. In addition, the protocol allows for an adaptive selection of the routing path based on the link quality. We evaluate performance with a simulator with two setup models: 1). meeting room or home environment with less than 10 sensing devices; 2). small working office or classroom environment with less than 25 sensing devices. The results show that around 80% of sensing devices links increase connecting reliability and the average increases are 11.2% and 5.7% respectively for two different models. For future work, we intend to evaluate the effectiveness of AJIA mechanism in terms of energy efficiency.

Mayleth Martinez, Karina Cota, Annes Chu, Ivett Gabriella, Psychology

How parents monitor and communicate with their children through social media, cell phones, and GPS devices
Faculty Mentor: Carl Sneed, Psychology

Children are being influenced by strangers through social media, which may put them at risk for being harmed. Parents use different strategies to communicate with, and monitor their children’s social media use. Previous research has found that children who are being monitored by their parents have fewer behavioral problems and are less likely to be at risk. However, research about the effectiveness of these methods have been inconclusive. The purpose of the study is to examine the extent to which parents monitor their children's use of social media through checking phone usage, applying internet security features, GPS devices, and creating social media profiles. The study will shed light on whether these monitoring efforts of pre-arming and cocooning would lead to more protection for the children. The hypotheses of the study will be that parental monitoring will lead to fewer behavioral problems, less rebellion, and more parental communication about sexual behaviors. Approximately 70 participants will be recruited from a midsize university in California. They will be males, females, any ethnicities, freshmen college students who have been monitored by their parents or older students with teenage children. Participants will fill out an online survey about their social media and cell phone use, and use of a GPS device. The study expects to find out what social media websites, or other devices are effective or popular in monitoring teenagers. These study results may help with future prevention efforts and it may protect children from being harmed through social media.

Amanda Dacanay, Asian Pacific Studies

Navigating the Trinity: LGBTQIA, Christian, and Filipinx American Identities
Faculty Mentor: Mary Lacanlale, Asian Pacific Studies

Filipino/a identity has been shaped and complicated by centuries of colonization of the Philippines by Spain and, more recently, the United States, creating a rigid, heteronormative culture among Filipino/a American immigrant communities. The result of this gender binary-centricity has contributed to the silencing of a severely under-researched group: Filipina/o Americans who identify as Christian and LGBTQIA (lesbian, gay, bisexual, transgender, queer/questioning, intersex, asexual/aromantic). The purpose of this project is to shed light on the difficulties faced by those caught in the
dichotomy of their personal realities and the religious and colonial idioms that frequently permeate the Filipino/a and American society. The goal is to facilitate further discussion and awareness, bringing about new perspectives of tolerance and inclusion that are harmonious with the realities faced by Filipino/a LGBTQIAs in conjunction with their faith. Information for this project was gathered through ethnographic interviews and academic research. The research that presently exists on this topic overwhelmingly focuses on gay men in the Philippines and Asian American LGBTQIAs (as a homogenous group). The unique immigration patterns of Filipino/as in the United States, further complicated by gender, sexuality and religious beliefs, imply a greater need for additional research and understanding in this area.

There are varying opinions and perspectives that provide both clarity and cloudiness to the issue as it can be challenging to combine religious practices and traditions with personal identities that, for some, seem to contradict institutionalized paradigms. However, it is also noted that the very diverse nature of perspectives provides a healthy forum for open-minded discussion and reflections in the hope that assumptions about the divisions between gender identity and faith can be supplanted with inclusion and compatibility among Filipino/a American LGBTQIAs who identify as Christian, in this particular example.

Ian A. Klinger, Sociology
Deconversion experiences among ex-religious fundamentalists in the southwestern United States
Faculty Mentor: Matthew Mutchler, Sociology

Research which attempts to better understand the changing religious landscape of the United States is important and timely. According to a Pew Research poll in 2015, the percentage of the total United States population self-identifying as religiously nonaffiliated had increased from 16.1% to 22.8% in just seven years, an increase of over 40%. During this time, there have been relatively few qualitative studies attempting to understand people’s shifting religious identification. This study attempts to better understand this trend of shifting religious identification by studying those who are leaving fundamentalist religion through a process called deconversion. This study will expand what is known about religious deconversion by studying the process of deconversion including entrance into the fundamentalist belief system, the beliefs the ex-fundamentalists used to hold, the process that led to leaving the fundamentalist religion, the social and psychological consequences of leaving, and self-reflection on the entire process of deconversion. In order to study the process of deconversion, a convenience sample of 24 former religious fundamentalists who are age 18 or older will be recruited. Recruiting will occur within the campus of California State University, Dominguez Hills. In order to capture the diverse nature of CSUDH, we will use purposive sampling to reflect the racial/ethnic composition of students at CSUDH. We will conduct semi-structured interviews to gather data on the deconversion process and administer a short complementary survey gather descriptive statistics on our sample. To analyze these qualitative data, we will read these transcripts and use a qualitative software program, NVivo, in order to create codes. Then we will use NVivo to generate coded transcripts. We will reread these coded transcripts and write analytical memos on the most salient themes within the coded transcripts. The findings of this study may help shed some qualitative light on the deconversion process.

Jonathan Hoel, History
History of Pokémon and the affects it has on people
Faculty Mentor: Andrea Johnson, History

I would like to write about the history of pokemon and the affects it has on people. How people react to it. How people view it.
Juliana Soto, Sociology

Dealing with “The Gay Dilemma”: Older Gay Men Living with HIV
Faculty Mentor: Matthew Mutchler, Sociology

With the advancement and the application of effective antiretroviral therapy for people living with HIV/AIDS, many people live to an older age. Older (50 years and older) gay men living with HIV (OGMLWH) face unique and complex psycho-social and medical challenges. However, little is known about how to meet their specific needs. The Healthy Living Project was conducted to learn about service gaps among a diverse sample of people living with HIV/AIDS in Los Angeles County. We focus on the psycho-social of English and Spanish-speaking OGMLWH participants. We conducted four focus groups with HIV-positive gay and bisexual men over the age of 50 (N=45); three of these were in English and one was in Spanish. Participants described their experiences and perspectives on HIV and aging in relation to their health and discussed services they felt would help improve their quality of life. We conducted a thematic analysis of the focus group transcripts and analyzed the complimentary survey data using SPSS software. Many OGMLWH reported feeling invisible in gay communities from ageism, stressed from being a part of a “lost generation” that survived the initial AIDS epidemic, and isolated from limited familial support. These experiences manifested as feelings of diminished self-worth and severe depression and impacted their engagement in care, which we defined as “the gay dilemma.” For some OGMLWH, social support mitigated the impact of these experiences.

Jose Andres Franco, Psychology

Association of Depression, Ethnicity, and Technology and Social Media Use
Faculty Mentor: Mark Carrier, Psychology

Minority groups in the United States, such as Hispanics/Latinos, suffer disproportionately high rates of mental illness, partly due to the stress of encountering racism and mistreatment and the discomfort of not identifying with the dominant ethnic group (“acculturative stress”). This study proposed that personal use of technology could provide comfort to those experiencing stress and other mood-related problems. The Internet provides a place to meet others experiencing similar conditions. Interacting with those persons extends one’s social network, providing social support such as empathy and understanding. Also, the Web contains numerous sources for physical and mental health topics that give individuals useful information for reducing their problems. Further, most websites originating in America are written in English and reflect the views of the dominant culture, so browsing the Internet might contribute to acculturation. It is hypothesized that not using much technology or social media will increase depressive symptoms in less acculturated persons. In contrast, individuals who use relatively high levels of technology will benefit from their technology use in ways that ease the relationship between acculturation and depressive symptoms. The method of this study consisted of an anonymous online questionnaire administered to Hispanics/Latinos (n = 317) to help to clarify the possible ways that the use of everyday, personal technology and social media is influencing one significant mental problem, depression. The questionnaire contained measures of depressive symptoms, acculturation into the dominant culture, and everyday use of technology and social media. Results show that less acculturated individuals that use a low amount of social media have higher depressive symptoms than those who use a greater amount of social media. Results also show that less acculturated individuals
that use low amounts of technology have higher depressive symptoms than individuals that use higher amounts of technology.

2:40 – 3:00 pm

**Amaranta Ramirez, Psychology**

*Herding Behavior and Social Media: Examining how personality and executive function affects how we behave online*

Faculty Mentor: Mark Carrier, Psychology

Online social media are part of many people's everyday lives and no doubt influence their thoughts and actions. In some cases, the influence of social media may have national implications, as is purported for the 2016 Presidential election. Social herding is convergent social behavior without centralized coordination. Past studies have looked at the behavior patterns on Twitter and in online buying situations, and have formed a descriptive framework for the patterns of behavior. Results indicate that the more cohesion in agreement on posts, the more likely others will agree, as well. This study examines social media platforms and hopes to show how the type of responses on posts, as well as the amount of likes on the post, can influence the opinions and reactions of individuals. Additionally, this study examines whether personality traits and executive function play a role when individuals will participate in herding behavior. It is hypothesized that the greater the number of likes and the more cohesion in the comments, the more likely it is that an individual will be influenced to agree with the consensus of the crowd. Also, it is hypothesized that people who are more extroverted and with less impulse control will be the most likely to participate in social herding. The study is a within-subjects design and uses an online questionnaire with vignettes mimicking three social media platforms: Facebook, Twitter, and Instagram. Each vignette depicts a post with different amounts of assenting or dissenting comments, and different amounts of “likes”. Additionally, this study will also be using the Big Five Inventory to assess core personality traits and the WebExec to assess executive control. The study gives more insight into a phenomenon that has vastly impacted our mass online communication in recent years.

3:00 – 3:20 pm

**Ray Jaquez, Christian Harms, Cristina Fincel, Mary Gauthier, Psychology**

*Expert Testimony: Can Jurors Be Sensitized to the Quality of Forensic Evidence?*

Faculty Mentor: Heather Butler, Psychology

Forensic identification evidence (e.g., fingerprints, DNA, hair fibers) is an immensely powerful form of evidence. Forensic identification evidence, even if it is poor quality evidence, can lead to a guilty verdict. Recently, the FBI admitted that their forensic examiners overstated the results in over 90% of cases involving hair microscopy. The present study explored whether expert psychological testimony can sensitize jurors to the quality of forensic evidence. Mock jurors (200 community adults) were presented with excerpts from the transcript of a real criminal trial. The forensic evidence in the case consisted of a fingerprint left at the crime scene. The experimental manipulations were the quality of fingerprint evidence (strong or weak) and the type of psychological expert testimony (none, errors testimony, standards testimony, or both). Mock jurors received weak fingerprint evidence (8 points) or stronger fingerprint evidence (16 points). Then, some participants received testimony from a psychological expert designed to make the mock jurors more sensitive to differences in evidence quality. The errors testimony emphasized that faulty forensics were implicated in 50% of wrongful convictions. The standards testimony emphasized the lack of protocols in fingerprinting. After reading the trial mock jurors were asked to render a verdict and answer questions about the case. The results revealed that jurors were sensitive to differences in the quality of forensic evidence, more voted guilty
when shown high quality evidence than low quality evidence. There was also a trend indicating that
the standards testimony was effective at sensitizing jurors to the quality of the evidence. It is difficult to
extract insights based on a single study, but the results indicate that concerns over jurors’ ability to
discriminate between strong and poor quality forensic evidence may be exaggerated. That said,
forensic evidence remains the second leading cause of wrongful conviction indicating more research is
needed.

3:20 – 3:30 Coffee Break

3:30 – 3:50 pm

Ian A. Klinger, Sociology

Age matters: Differences in predictors of self-reported adherence between older and young
Black men who have sex with men
Faculty Mentor: Matthew Mutchler, Sociology

African Americans show lower levels of antiretroviral therapy (ART) adherence to HIV medications
than other racial/ethnic groups. There are also differences in ART adherence patterns by age, with
older African Americans reporting higher adherence. To understand potential reasons for disparities
in adherence by age and race, we combined data from two surveys of HIV-positive African American
adult men who have sex with men, resulting in 209 participants (130 aged 18-50 years; 79 aged 50
years or older). Multivariate linear regressions were used to examine associations between baseline
characteristics and adherence to HIV medications as well as interactions of baseline characteristics
with age. Among the full sample, low income, stimulant use, problematic alcohol use, and internalized
HIV stigma predicted reduced adherence, while perceived ART efficacy, and ratings of care predicted
increased adherence (p<.05). Specifically, the associations between trust and doctor satisfaction
rations with higher adherence were stronger for older vs younger men (p<.05); the association
between problem drinking and lower adherence was stronger among younger men (p<.05); and the
association between HIV conspiracy beliefs and lower adherence were stronger among older men
(p<.10). Future interventions to improve adherence among African Americans need to take into
account differences in adherence by age.

3:50 – 4:10 pm

Jordan Verdin, Negotiation, Conflict Resolution and Peacebuilding

Can Viewing Pictures of Different Races Influence Bias Towards the Homeless?
Faculty Mentor: Margaret Manning, Negotiation, Conflict Resolution and Peacebuilding

Stereotypes and biases encompass every part of our lives; with people harboring more biases and
stereotypes than they care to admit. Culture plays a significant role in instilling biases and stereotypes
therefore, if they can be learned, then we can learn to recognize subtle prejudices and moderate
them. The literature shows people harbor unconscious biases and because culture instills them in our
brains, the biases becomes automatic. My research on implicit race bias refers to the attitudes or
stereotypes that affect our understanding, actions, and decisions in an unconscious manner and the
effect that bias has on perception, in particular of the homeless community. I conducted 131 surveys
in a local community in San Diego County at the mall and a gym. I first asked the interviewees three
demographic questions about their own age, sex and ethnicity, then I showed 50% a photograph of a
homeless African American male and the other 50% saw an image of a homeless Caucasian male,
who matched in age and bearded appearance as the first. After viewing one of the images, I asked all
respondents the same five questions about their views on homelessness, also questioning if they
would support a tax increase to benefit homeless. For example questions about supporting county-
funded healthcare and restrooms specifically for the homeless. The results showed a marked
difference of 10% in favor of benefits for the homeless when the preceding image was a Caucasian male, which confirmed the earlier studies. The respondents tended to be young, aged predominantly between 18-24 years, female, and Hispanic. No one over 50 years was interviewed because of the location of the interview sites. Future research would explore the differences in responses between younger and older respondents, especially older Caucasian males.
In the past decades, computers and technology have become increasingly more advanced, as well as the means to abuse this technology. Two advancements in particular is the creation of Cellular Devices and the creation of Penetration Testing tools. This paper will not only explore the history and background of Penetration Testing, but will also include the means of combining Cellular Devices with Wireless capabilities and Penetration Testing tools such as Kali Linux; In such that it should be possible to use in real-world applications, as well as, how this project will change cyber security by turning a wireless cellular device into a mobile Linux hacking terminal and see how effective it can be.

Game engines are generally designed in imperative languages, typically in either hierarchical or entity/component models. We examine the implementation of a game engine in Haskell, a functional language. We also look at how function reactive programming can be applied to game engine design using Netwire, an arrow based functional reactive programming library.
This research creates art that critiques politics through Simulacrum. As described by Plato, Simulacrum is the alternative reality that represents the perfect world from the imperfect reality. Similar a political cartoon, the researcher/artist, found political principles and figures and used simulacrum to alter the imagery in a way that emphasizes a problem. This research focused on the idea of simulacrum represented in social media. Social media itself is an example of simulacrum because it is a world within itself; it reflects and influences our world. Social media is a strong influence on politics, as seen in the 2016 election and the aftermath. The principles and figures reflected on in this research are those that can possibly be harmful to other individuals’ rights and safety. The same content, however, has influenced some voters to support principles and figures that can be harmful to others. The purpose of this research is to focus on content posted online relating to political figures and events that have contributed to negative results on others’ safety and rights. The process for this research began by finding political events and figures found controversial in social media. The researcher then analyzed how related posts and comments reflected ideas and opinions. The artist/researcher then took images, representing these political events and figures, and altered them to emphasize their influence on viewers as a visual, rather than just a written online post. The artist/researcher then posted the altered image on social media and gauged the reaction through follow up comments. Results showed a polarized reaction that included both support of the emphasized idea and comments of rage. This research can help explain how voters reach political decisions.

Gabrielle “Coco” Chanel was an avant-garde artist of the Modern Period who not only had a profound influence on the culture of the time but whose fashions were greatly inspired by the art movements she encountered. It can be argued that only a female can understand the needs of the modern woman, and Chanel not only influenced the modern wardrobe but spoke of the changing times through her work. She was not simply a fashion designer; Chanel was an artist whose palette was the female body and whose medium was apparel.

In this project, the value of pornographic and transgressive images is being analyzed. In our current American society, taboos are enforced, but never justified, while at the same time people are placated by commodities and simulated experiences. At an individual level, we are conditioned to
repress thoughts and we are asked to act logically, omitting any pursuit of pleasure. The question being addressed with this research is how can visual art be an antithesis to all this? In trying to create an opposite, deviance and violence have become focuses in my research, and painting and drawing are the tools used to obtain my results. Deviance is seen more or less as an interest with social norms being abandoned and neglected. This is explored in drawings that depict sexually perverse images, images that would be considered aggressively pornographic. Violence is not seen in the physical sense, but in a psychological sense, where uninhibited, violent ideas are carried out in paintings. This idea of mixing high and low culture is also explored. Pornographic and violent images are considered fine art, tearing down boundaries that once would have excluded these images. In creating an antithesis and tearing down boundaries in our culture, the art also explores this feeling of confusion and lack of moral direction within the urban setting in the early 21st century. The research/artwork questions our compliance to social and moral values, while pornographic and transgressive images are elevated and seen in a new light.

3:20 – 3:30 pm Coffee Break

Ray Jaquez, Christian Harms, Cristina Fincel, Mary Gauthier, Psychology  
Expert Testimony: Can Jurors Be Sensitized to the Quality of Forensic Evidence?  
Faculty Mentor: Heather Butler, Psychology

Forensic identification evidence (e.g., fingerprints, DNA, hair fibers) is an immensely powerful form of evidence. Forensic identification evidence, even if it is poor quality evidence, can lead to a guilty verdict. Recently, the FBI admitted that their forensic examiners overstated the results in over 90% of cases involving hair microscopy. The present study explored whether expert psychological testimony can sensitize jurors to the quality of forensic evidence. Mock jurors (200 community adults) were presented with excerpts from the transcript of a real criminal trial. The forensic evidence in the case consisted of a fingerprint left at the crime scene. The experimental manipulations were the quality of fingerprint evidence (strong or weak) and the type of psychological expert testimony (none, errors testimony, standards testimony, or both). Mock jurors received weak fingerprint evidence (8 points) or stronger fingerprint evidence (16 points). Then, some participants received testimony from a psychological expert designed to make the mock jurors more sensitive to differences in evidence quality. The errors testimony emphasized that faulty forensics were implicated in 50% of wrongful convictions. The standards testimony emphasized the lack of protocols in fingerprinting. After reading the trial mock jurors were asked to render a verdict and answer questions about the case. The results revealed that jurors were sensitive to differences in the quality of forensic evidence, more voted guilty when shown high quality evidence than low quality evidence. There was also a trend indicating that the standards testimony was effective at sensitizing jurors to the quality of the evidence. It is difficult to extract insights based on a single study, but the results indicate that concerns over jurors’ ability to discriminate between strong and poor quality forensic evidence may be exaggerated. That said, forensic evidence remains the second leading cause of wrongful conviction indicating more research is needed.

3:20 – 3:30 Coffee Break

3:30 – 3:50 pm

Catrina Mendoza, Art and Design  
A Visual Insight into a “Deadly Weapon”  
Faculty Mentor: Devon Tsuno, Art and Design

Human beings just want to be treated with equality, but today in America “The land of opportunity, freedom, and equality” these promises are not equitable for Black men. How can we improve our
communities and thrive without the accession of a militarized police state and keep people aware of
these wrongdoings? In my paintings, I created an insight to what police officers considered a deadly
weapon, and make people aware of the abuse of power within law enforcement. The justice system
does not condemn the bad cops which generates a “shield” that protects those in power from the law.
By giving cops the benefit of the doubt for their crimes, officers create a justifiable defense that they
had to use lethal force to protect themselves. Racial bias against people of color happens more often
than people think. This creates tension between police officers and people of color, because both feel
unsafe in situations that start as nothing, but escalate to a hostile one.

Because the objects the victims held were mistaken for weapons, I visually began my research by
sketching these objects; Skittles, a book, a vape pen, a wallet, a toy gun, and a cell phone while
visually cataloging those who died. My paintings isolate and document the monotonous objects
mistaken for weapons held by African American men killed by police in America. Composition and
scale are two ways where I try to represent how miniscule these objects are in comparison to the
lives that have been lost. By continuing to research the wrongful deaths of African American men
killed by those in law enforcement I hope to visually advocate that improved unbiased training for law
enforcement can lower the mistaken assumptions that objects held by Black men are deadly
weapons.

3:50 – 4:10 pm

Diamond Smith, Farida Alami, Xaisha Bailey, Digital Media Arts
Transgender People
Faculty Mentor: George Vinovich, Digital Media Arts

The lives of transgender people are often glamorized in the media because of celebrities such as
Kaitlin Jenner, Chaz Bono, and Laverne Cox, but many in society don't know about the “real” lives of
transgender people on the other side of fame. Statement of the Purpose of the Project. Our
production team created a documentary film to provide insight into the problems faced by transgender
people whose voices have gone unheard. Methodology. Producers, Diamond Smith, Farida Alami,
and Xaisha Bailey, collaborated to create this documentary film by taking this project through the
entire film production cycle: research on the topic, pre-production (script writing, auditioning narrators,
location scouting, story boarding, and creating shot lists) to production (crew assignments, lighting,
art direction, camera, and directing interviews) and finally to post production (video editing, graphics
production, and original music composition). They scouted locations ranging from Los Angeles to the
San Fernando Valley determined to find transgender people that were confident enough to share their
stories. The producers were able to interview a diverse group of transgender people with compelling
stories. Through hours of interviewing the producers were able to uncover experiences and problems
that are very common in the transgender community. Discussion of Results. Audiences that have
viewed this documentary say this film has opened up a new perspective for them because they never
imagined transgender people had such difficult lives. Conclusion and Future Direction. The producers
plan on presenting this documentary at film festivals in hopes of spreading awareness. They also plan
to have the documentary streamed online and broadcasted on local television to help create a
dialogue between society and the transgender community.
In the field of retention and persistence in higher education, it is common knowledge that students from historically underrepresented communities (such as female, non-white, first generation, Pell-eligible, and commuter students) tend to perform more poorly than their counterparts who are not of these demographics. They also are known to fail to persist at higher rates than others. Previous literature reports that there are several strategies to combat this phenomenon. These can include creating affinity spaces and groups, such as Hermanas Unidas or the Rose Black Resource Center, official or unofficial mentorship programs, such as TRIO or DHFYE (First Year Experience), or meaningful faculty interaction. Additionally, food and housing insecurities can be addressed through food banks and access to emergency loans. The commonality that all of this research has is that this data was all collected at Primarily White Institutions (PWIs), whereas Dominguez Hills (DH) is a Hispanic Serving Institution (HIS) that has an overwhelmingly female, Pell-eligible, commuter population. Furthermore, all of these tactics and more are already being implemented at DH, so why are these specific students still failing to persist? With these safeguards in place, the number of students that fit this category of female, non-white, first generation, Pell-eligible, and commuter students should have an advantage. We first isolated a cohort of 45 students who left DH after three semesters without receiving a certificate or diploma. Once we identified the participants who agreed to participate (n=6), we conducted interviews designed to gather their reflections on their experiences while at DH. The data gathered will be used to create comprehensive systems designed to retain future students like these.

The main focus of this study is to increase students’ reading comprehension by incorporating a reading fluency intervention that will also impact their reading motivation and interest. During the intervention, students are exposed to a variety of reading opportunities in a small group setting. They are asked before and after the study several reading interest questions in order to gauge their reading motivation. Students met with the teacher for 3 days a week for about 25 minutes each day. A variety of issues are presented in this study due to the time constraints for the research and time in the classroom with students. The intervention began by peeking students’ interest using appealing text to be read as a group. After students developed a sense of community within the small group, they worked on reading a variety of genres and listening to stories through audio. Notes were taken throughout the study noting students’ perceived attitude towards the lesson for the day. In order to gauge students’ reading motivation students completed a post intervention survey. Finally, students took the STAR Reading test to measure their growth in reading comprehension.
2:40 – 3:00 pm

Juan Lugo, Teacher Education
*Troubling Masculinities: Implications for Engaging Male Students of Color*
Faculty Mentor: Edward Curammeng, Teacher Education

This study examines the effectiveness of using culturally relevant texts in a high school classroom to enable students to think critically about race, gender, and power within stories in order to apply themes to their lived experience. Multiple texts were used in a class comprised of male students of Color to facilitate discussions on the complex and intersecting identities they bring, which often disagree with their familial and cultural expectations causing an emotional unrest. Their reflections provide a way to define and recognize how identity of male students of Color is created and for the necessity of having spaces that afford them opportunities to critically engage with their learning and development of masculinities. The study attempts to build on the work in the areas of culturally relevant and sustaining pedagogies, and draws from theories of critical race and Chicana feminisms to analyze student data. Lastly, it offers implications for engaging with male students of Color and highlights the need for a shift in curricular practices.

3:00 – 3:20 pm

Giselle Salinas, Psychology
*Student Veteran Challenges and Successes at the University*
Faculty Mentor: Phu Phan, Human Services

The aim of the study was to explore the challenges and successes student veterans experience in the university. Student veterans go from serving years in the military and become accustomed to daily routines and similar forms of interactions with their fellow veterans. Once these veterans leave the military and enroll back into school, they must adapt to a new environment and often it is a process that they need to learn. Studies have explored the challenges these veterans face after leaving the military but often, the various factors that affect the influence of their success and challenges are forgotten. Through a qualitative approach, 34 participants were recruited and interviewed for about 30-45 minutes from a university campus in Southern California. Participants were asked about their experiences, challenges, and successes being enrolled in the university. Themes were created similar to previous literature on the challenges and successes of student veterans. Results will help contribute to the literature and help explore more of the various factors that affect these student veterans both positively and negatively. Findings will further advance the understanding of the transitions these student veterans face in the university.

3:20 – 3:30 Coffee Break

3:30 – 3:50 pm

Anna Ortega, English
*Comparing Trump’s Speech vs Obama’s Speech on Black History Month*
Faculty Mentor: Vanessa Wenzell, English

Critical Discourse Analysis (CDA) is a form of discourse analysis used for intensive study of different forms of communications. The analysis of this study helps us to understand better the communicative meanings behind a message. Many English Student Learners (ESL) and English Foreign Learners (EFL) have a difficult time understanding the underlying messages behind literal meanings of words. Critical Discourse Analysis helps us to examine the features of language that are used to convey a message that is not literal but often has a different meaning. This paper will compare two speeches
on the same topic given by the last two presidents of the United States. The two presidents were Barack Obama and President Trump. Both have had the opportunity of delivering speeches about Black History Month. An analysis of these two speeches shows how certain linguistic features can tell us more about the speaker and about their message. The research was conducted by examining and quantifying different CDA features and hortatory exposition features showing how each speaker used language to convey certain meanings. The analysis of discourse features was done to identify and to compare and contrast common words and phrases used by both speakers. The hortatory exposition features were examined to show how the speeches were delivered and to compare their effectiveness in conveying a message. The results of the research provide evidence to show the importance of teaching CDA in the curriculum of English Language teaching to second language learners, since the message of any medium of communication cannot always be understood by what is literally on the surface.

3:50 – 4:10 pm

**Jerry Coronado, Teacher Education**  
*The Influence of Mindfulness on the Academic Achievement and Engagement of a Group of Eighth-Grade Pupils*  
Faculty Mentor: Edward Curammeng, Teacher Education

4:10 – 4:30 pm

**Eugene Cox, Gersain Bailon, Alexis Bueno, Psychology**  
*Which College Activities Build Career Readiness for CSUDH Students?*  
Faculty Mentor: Mark Carrier, Psychology
2:00 – 2:20 pm

Paula Sherrin, English
*Gendered Experiences of Trauma in Titus Andronicus*
Faculty Mentor: Kimberly Huth, English

The violence in Shakespeare’s Titus Andronicus has been read by many literary critics as either the clumsy sensationalism of a novice playwright, a critique of the English monarchy, or a didactic example of the costs of unsanctioned vengeance. However, the ethical lessons of the play are more complex than any of these readings indicate. A feminist reading acknowledges that the violence experienced by the play’s male characters differs from that experienced by the women. This gendered nature of violence suggests that brutality performed on Titus, the Roman soldier, differs in purpose and rationale from the cruelty inflicted on Lavinia, his daughter. This distinction warrants a different reading of the play. I propose that the blood feud between the Andronici and Tamora’s clan is a continuation of the war between Rome and the Goths that; this is the rationale for the play’s brutality. Violence in warfare is inherently gendered, and this is true whether the site of conflict is on the battlefield or the homefront. To die in battle is honorable for a man, but the rape of a woman brings shame to her and her family, not the rapist. Thus, the abduction, rape, and mutilation of Lavinia is an act of war by the Goths in which her body is employed as a weapon against Titus to create terror. The discovery of Lavinia’s mute and mutilated body renders the Andronici tactically impotent for all of Act III; this is its intended purpose. Lavinia is collateral damage, a casualty in a war of which her family seems unaware until she can make a spectacle of proclamation and reveal the crime and the criminals. This spectacle initiates a brief, but significant, period of agency for Lavinia.

2:20 – 2:40 pm

Lawrence Ramirez, Art and Design
*Choice of a New Generation: Contesting Orientalist Symbolism under the Pressures of the Globalized Culture of Commodity Capitalism*
Faculty Mentor: Kirstin Ellsworth, Art and Design

Postcolonial critiques often look to the past, examining how the presence of Imperialist oppression over the non-Western world disrupted cultural traditions and created a sense of alienation between the Postcolonial thinker and their ancestral heritage. However, this historical orientation has come under criticism by contemporary Postnationalist theorists, who argue that, although official colonial occupation has generally come to an end throughout the world, a neo-colonial system of globalized neo-liberal capitalism has created a new world system of inequality and exploitation. Consequently, the lens of cultural alienation needs to be redirected from the Postcolonial past to the Globalized present, looking at how the culture of capitalism is imposing hegemonic Western values upon the world. Because cultural symbols are reflections of the underlying material realities, such symbols become contested points in resisting hegemonic pressures and in asserting cultural identity. Yet, these symbols also become the compass by which one can discern cultural shift and assimilation. Two symbols that are pertinent to studying the way in which globalized economic ideologies are affecting Islamic culture are the veil and the harem. Through the methodology of visual media discourse analysis and a literature review of Postcolonial critiques, the ways in which identity is negotiated between local tradition and the global contemporary may be explored. By examining how the symbols of veiling and seclusion are understood and expressed by female artists from North Africa and the Middle East, we can reexamine
American history has always skimmed over the history of slavery or any racial event involving African Americans. In the 21st century, two artists decided to take a chance and reveal a hidden American history. Kara Walker shows a series of silhouette works that reveal the vulgar and disturbing parts of slavery using a folklore and fantasy approach. Another artist, Kerry James Marshall illustrates and empowers by subtle painting strokes African Americans and focuses on a better future for African Americans. Walker and Marshall both use stereotypes to address African-American life in America history. However, Marshall chooses positive reinforcement allowing African-Americans to integrate into American society, while Walker purposely uses racially vulgar caricatures to highlight racial hypocrisy in America.

One of the more difficult tasks of teaching English as a Foreign Language (EFL) is building the student’s pragmatic competence. Advice giving is a pragmatic speech act that involves telling another person to perform or not perform an action that the speaker believes will benefit the addressee (Tatsuki and Houck, p. 89). Additionally, advice giving can be perceived as a speech act that threatens the public self-image or the sense of self of the person that is being addressed (Cutting, p. 33). Native Japanese speakers are one group of English language learners that face notable difficulties with advice giving. Although unintentional, the advice given by Japanese learners of English (JLEs) may be quite direct compared to that of American English speakers. This can cause the JLEs to threaten the public self-image of the person receiving the advice and can have a negative impact on the student’s language learning experience. Using five minute media samples from the television drama series Sex and the City and “突然ですが、明日結婚します/ It may be sudden, but I’m getting married tomorrow,” this paper will examine advice giving structures in both American English and Japanese. The aim of this contrastive pragmatic analysis is to examine the advice giving structures of L1 American English and L1 Japanese, compare the data to that of studies on L2 English of JLEs (L1 is the speaker’s native language, L2 is the speaker’s additional language), and to determine whether the advice given by JLEs more closely resembles that of American English or Japanese advice giving structures. Further, the results of this paper will note the implications for EFL education and ways that EFL instructors can build their student’s pragmatic competence in advice giving.
3:30 – 3:50 pm

Cambria Rodriguez, History

*Bringing Wealth and Water to the City of Angels: Transforming Los Angeles’ Physical Landscape into an Anglo Vision 1885-1930*

Faculty Mentor: Doris Namala, History

For almost a hundred years Mexicans who settled into Los Angeles prior to the Mexican American War adapted to the natural, physical landscape and the water supply it provided. When Anglo Americans came to the Los Angeles basin after California was declared a state in 1848, decades of physical landscape changes to the region’s coast and water supply began to transform the City of Angels according to an “Anglo Vision” at the social and human cost of the displaced and exploited indigenous and Mexican descent populations who resided there. There is little scholarship pertaining to the physical landscape changes Anglo Americans enforced that specifically affected the indigenous and Mexican descended communities within Los Angeles which is why my research provides historical significance. The scholarship in my research is diverse and comes from an array of academic and professional disciplines that strengthens and provide perceptive evidence to my paper. The three massive geographic reconstruction projects initiated by Anglo city planners, Owens Valley Aqueduct, Deadman’s Island and the Los Angeles River rechanneling project have made it possible to sustain the growing population and metropolis Los Angeles has become today. However, in result of those projects, Indigenous and Mexican communities have been displaced, lost sacred traditions and exploited for their labor and knowledge. Anglos wanted to conform the land’s water supply and coast to benefit their own economic, social and political goals. In addition, the decades of geographic changes to the region’s coast and water supply in order to transform Los Angeles according to an “Anglo Vision” was only possible due to the social and human cost of the indigenous and Mexican descent populations who resided there. This time in history should not go unnoticed especially from the point of view of the Indigenous and Mexican descended communities, who, like the landscape, are still suffering the costs of the Anglo vision today. Due to the alterations and divides the Anglo vision brought upon the landscape and its communities from their arrival to the end of the Los Angeles River construction project in 1960, class, racial divides, climatic changes and ecosystems continue to diminish and cause conflicts within the Los Angeles region.

3:50 – 4:10 pm

Thao Nguyen, History

*Indigenous conquest of Mexico*

Faculty Mentor: Doris Namala, History

The Spanish conquest of Mexico contains myths and misconceptions centered around the Spanish narrative and explorers. The most famous Spanish explorer to this day, Hernan Cortes who overshadowed the many native participants and city-state allies that contributed to the conquest of Mexico remain synonymous with its legacy. Public knowledge of the conquest of Mexico represents a condensed and Spanish centered story about a few Spaniards that took down an entire population of indigenous people single-handedly. By using primary sources such as the Lienzo de Tlaxcala and Florentine Codex along with Spanish first-hand accounts of the conquest by Hernan Cortes and Bernal Diaz, a closer look into allies and their contributions to the conquest is possible. Research into an indigenous perspective of the conquest of Mexico produced evidence for native participation in military, intermediary, and labor-related roles. Evidence from indigenous sources shows an exchange of weapons and a coat of arms for military performance from native warriors, the representation of translators through the infamous Malintzin, a series of prearrange marriages between indigenous noble women and Spaniards to solidify alliances, and the importance of native cooks and laborers. The
research is part of a contemporary genre called New Conquest History that highlights the local narrative of the conquest and informs readers to the thousands of individuals forgotten from history.

4:10 – 4:30 pm

Melvianne Andersen, English

Oh, How the Mighty Have Fallen: The Nature of the Gentry Class in Pamela; or Virtue Rewarded
Faculty Mentor: Helen Oesterheld, English

Eighty years after the end of the interregnum and the return of the monarchy, concern about class distinction and separation are on the rise. The gentry are expected to display a difference between themselves and the lower classes through more than just wealth. The merchant class and the increase in wealth with those who are not gentry means that wealth was not enough to separate the classes. Therefore, things such as birth, honor, and a higher degree of conduct are required of the gentry class to differentiate them from the newly wealthy. Novelist Samuel Richardson exposes this rising tension through characters in his seminal novel, Pamela; or Virtue Rewarded. Throughout his novel, Richardson exposes the upper class as a whole, providing us with a glimpse of the upper classes which would not have been visible heretofore to the lower classes. This paper explores the fallen nature of the gentry class in connection with the continuing rise of the newly wealthy and ascendant middling class.
Alyssa DeAmicis, Orthotics and Prosthetics

*Exploring Socket Comfort*
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

The objective of this study was to compare socket comfort from patient preference as assessed through the socket comfort score scale for a standard of care, ischial ramus design and an adjustable design. Delivering a comfortable prosthesis is of the upmost importance so the patient may ambulate and continue to achieve all their activities of daily living. Twelve subjects with unilateral transfemoral amputations who have worn both designs participated in the study. Each subject scored both sockets on the socket comfort scale beginning with their current device. The mean score recorded for the adjustable socket was 8.83 and the standard of care was 7.25. This resulted in a p-value of .01. The difference between the two total scores showed a significant difference exists to indicate that adjustable socket design is preferred for higher socket comfort. A larger sample size and expanded region of recruitment is required to evaluate this further.

Ronell Lopez, Biology

*Maintenance of Vascular Integrity via ARF6-GTP Inhibition Protects Mice from MDR Acinetobacter Infection*
Faculty Mentor: Lin Lin, Immunology, LA BioMed

Background: Multi-drug resistant (MDR) Gram negative bacteria (GNB) infections (e.g. caused by Acinetobacter baumannii [AB]), portend global health and well-being. Thus, novel methods to treat these infections are needed. Our solution relies on altering the immune response to GNB infections. Specifically, we propose to develop therapies that inhibit ARF6-GTP formation, a molecule essential for lipopolysaccharide (LPS)-mediated vascular leak often associated with septicemia. We hypothesize that by pharmacologically inhibiting ARF6-GTP we will preserve vascular permeability, reduce tissue edema and prevent organ failure while having no effect on immunity-based clearance of the pathogen. Methods: AB-mediated ARF6-GTP formation in human umbilical vein endothelial cells (HUVEC) and the effect of ARF6-GTP inhibitors was studied by immunoprecipitation (IP) and trans-well permeability assays. HUVEC VE-Cadherin expression was tracked by immunofluorescence. Contribution of ARF6-GTP to AB virulence in vitro and in vivo was studied by reduction of ARF6-GTP expression (siRNA) and by using ARF6/- mice, respectively. ARF6-GTP Inhibitors were evaluated for their protective effect in neutropenic mice with AB pneumonia. Results: AB LPS activated HUVEC ARF6-GTP and increased trans-well permeability via TLR-4 signaling. ARF6-GTP inhibitors reduced AB-mediated ARF6-GTP activation and abrogated HUVEC trans-well permeability by ~70% and ~85%, respectively (P<0.05). Further, AB disrupted HUVEC junctions via reduction of VE-Cadherin surface expression and the inhibitors reversed this effect. HUVEC with reduced ARF6-GTP expression and ARF6/- mice were resistant to AB-mediated trans-well permeability and infection, respectively. Finally, a water soluble ARF6 inhibitor (NAV-5093) significantly improved survival of mice (n=10 per arm) when compared to placebo (21-day survival of 90% vs. 0% survival for placebo, P<0.004) with surviving mice appearing healthy. Conclusions: AB virulence is reliant on inducing vascular permeability via activation of ARF6-GTP formation. Inhibition of ARF6-GTP formation reduces vascular leak and enhances survival of AB...
infected mice. Development of ARF6-GTP inhibitors as a treatment of MDR-GNB is warranted.

Riley Lotta, Social Work

*Homeless Female Veterans with Children: A Qualitative Study*

Faculty Mentor: Susan Einbinder, Social Work

This study focuses on the disproportionate number of women veterans who lack access to gender-specific care from the Veterans Health Administration. As the number of female veterans grows, demands for the VA to respond to female- and female parent-specific needs, most significantly, health care and housing has also sharply increase, but to date, to no avail. Specifically, homeless female veterans with dependent children comprise a population in need that has yet to receive attention and assistance tailored for their needs that ensures the well-being of the female veteran and respects and supports her ability to retain custody and care for her dependent child(ren). There is limited knowledge about the specific needs that homeless women veterans and their children need in order to maintain housing and retain their well-being an ability to function in US society. Only a few studies have solicited the voices of these homeless female veterans. Therefore, this study proposes to gather individual oral interviews with female veterans with children who have experienced homelessness as well as staff members and administrators at the U.S. VETS Women with Children Program in Long Beach, California. The goal of this study is to describe concepts related to female veterans’ experiences with homelessness, their experiences with obtaining housing, and how being a single mother has impacted these experiences. The information analyzed will be used to suggest possible strategies for helping female veterans with children find suitable and stable housing.

Jeffrey Lutz, Ernest Urzua, Donald Crawford, Computer Science

*Accommodating User Requests in Data Center Networks via Virtual Machine Simulation*

Faculty Mentor: Bin Tang, Computer Science

The overall purpose of this study was to attempt to maximize concurrent cloud user requests inside of a data center. The way this was done was to produce different algorithms to accommodate as many Virtual Machine pairs as possible into a k-ary fat tree with bandwidth constraints and to evaluate their effectiveness using multiple simulations. These Virtual Machine pairs are assigned a random bandwidth demand within a given range and are placed within the network. The basic setup for our study was to split these algorithms into two different parts, the first part being the path finding algorithm, and the second part being the algorithm that determines the order of VM pair placement. These two algorithms combine to create a method that accommodates varying amounts of VM pairs into our tree given different constraints. Three different pathfinding algorithms were used to decide which VM pair path was taken, two greedy algorithms, and one that works similarly to the Dijkstra algorithm. There are five different VM pair placement order algorithms: shortest path first, longest path first, lowest bandwidth first, combined shortest path and lowest bandwidth, and least costly path first. There were two different simulations done, one with a wide range of bandwidths for the VM pairs, and one with no range. In both simulations the least costly path first ordering scheme and lowest overall cumulative weight pathfinding algorithm consistently performed the best.

Tatiana Cruz, Molly Powell, Ernesto Morales, Serina Quintero, Kassandra Paysse,
Anthropology

**Archaeological Fieldwork at Rancho Dominguez**
Faculty Mentor: Jerry Moore, Anthropology

As part of the Spring 2017 ANT 313: Archaeological Methods and Techniques field class, our team of five students, under the supervision of Dr. Jerry Moore, conducted archaeological fieldwork at the historic Rancho Dominguez. The Rancho Dominguez, located on the historic Alameda Street Corridor in Carson, California, is a former Spanish colonial Mexican rancho built in the 19th century. Part of the extensive Rancho San Pedro Land Grant in California given to Juan Jose Dominguez, former Spanish soldier of New Spain, Rancho Dominguez was a working ranch until 1920. The site is of considerable cultural importance in the history of Southern California, Los Angeles, and also California State University Dominguez Hills. ANT 313 Archaeological Methods and Techniques introduces focused students to the logics, practices, and challenges of conducting archaeological fieldwork while expanding on work previously conducted by CSUDH student groups since 2009. Methods in the field included mastering and utilizing non-destructive geophysical investigations, specifically Ground Penetrating Radar and Magnetometry to identify locations for subsurface excavation. The team shoveled a single excavation site in increments of 5-10 cm levels, to a depth of 60 cm. The excavations recovered artifacts and ecofacts of variable significance and documented the impacts of bioturbation and recent human activities in this portion of the historic flood plain of the Los Angeles River. Upon completion of the field work, the semester concluded with a multi-page report of research, methods, and findings. Employing techniques from traditional to modern allowed the students to obtain a well-rounded education in archaeological field and lab methods and report preparation useful for future careers in Cultural Resource Management and archaeological research.

**Ana Baez, Nora Banuelos, Psychology**

*The Effect of an Accused’s Facial Expression and Mental Illness in a Criminal Setting*
Faculty Mentor: Silvia Santos, Psychology

The purpose of this empirical study was to analyze the effects of facial expression and mental illness on leniency. Previous empirical studies have demonstrated that a juror’s decision is influenced by the target’s facial expression. They found that if the target smiled they were perceived as more likable and submissive. On the other hand, previous studies on mental illness found that mental illness carries negative stereotypes and stigma. This study was developed in hopes of finding a limitation to the smile leniency effect and mental illness stereotypes. Given that mental illness is a sensitive topic that may be easily overlooked with an accused person of a crime, the decision of a jury will affect the accused’s conviction. Additionally, it was a 2x2 design that evaluated the interaction of two independent variables: facial expression (smile versus neutral) and mental illness (bipolar type 1 versus no mental illness), and how they influence the smile leniency effect in a criminal setting. The study was composed of four dependent variables: criminal traits, responsibility, sentence length and clemency. The experimental packet contained the following documents: informed consent form, vignette description, four dependent variable questionnaire, and demographic page with manipulation check questions. Eighty individuals participated in the study. Based on previous empirical studies, it has been hypothesized that a person’s mental illness would increase leniency more than a smiling facial expression. Therefore, there would be an evident limitation to the smile leniency effect in a criminal setting. In conclusion, the results showed no significant increase of leniency for facial expression or bipolar type one. However, dependent variable clemency showed a significant increase in leniency when there is an interaction between bipolar type one and a smiling facial expression.
alternative explanation to these findings would be subjects viewed the target as less dangerous because of the smile.

**Latrena Johnson, Teacher Education**  
*Developing Critical Thinking Skills*  
Faculty Mentor: Edward Curammeng, Teacher Education

The text complexity shift in the Common Core State Standards calls for students to read text at and above grade level accompanied with higher level questioning. Statistics show that more than half of eighth graders and twelfth graders scored below grade level on the National Assessment of Educational Progress (NAEP), which indicates that students are not meeting the national standards. The purpose of this study was to find strategies to develop critical thinking skills for secondary students with reading deficiencies. To that purpose, a study was conducted on 104 tenth grade students with most of them reading below grade level. They listened to the audio of a story (10th grade level) and followed along verbally answering discussion questions. After reading the selection, they answered critical thinking questions, were placed in cooperative groups to complete a task, and presented to the class. The findings were that students comprehended the story, were more attentive, and more engaged. However, their presentation revealed that more than half of them did not master the standard. The implication is that teaching critical thinking skills is a difficult task and that students are not going to master it in one lesson. Thinking at higher levels is a gradual process.

**Kayla Kim, Teacher Education**  
*Guided Reading Instruction and Its Effectives*  
Faculty Mentor: Edward Curammeng, Teacher Education

This study investigated the relative effects of providing guided reading instructions in a small group setting to students who are reading below grade level. The study consisted of twelve students in third grade who struggle in reading comprehension and fluency. This group was assigned to a small group, for instruction, according to their reading level after a pre-assessment during Reader’s Workshop. The students were received guided reading instructions in their small group twice a week for one full month. Each session was approximately 15 minutes long. Individual small group used leveled books (i.e., books at the student’s current reading level) and all students had their own copy to keep with the other books within his or her book bag for reading at their free time. Results revealed that guided reading instruction in a small group setting helped students improve both their fluency and reading comprehension skills by providing them a variety of ‘strategies’ (i.e., approaches) they can use while reading. When given a post-assessment to measure skills, the majority of the students performed with a higher rate of fluency and comprehension with enable them to move up reading level (based on Fountas and Pinnell reading levels).

**Anna Velsko, Orthotics and Prosthetics**  
*Does Increased Calcaneal Inversion Produce a Significant Change in Hip Adduction?*  
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Purpose: The timed switch of the calcaneus between inversion and eversion during human locomotion produces dynamic alignment of the more proximal joints. This study aimed to determine if preventing the calcaneus from fully everting significantly affects hip adduction in able-bodied individuals. Subjects and Methods: 1 male and 4 female able-bodied subjects participated in this study. They were asked to walk with 3D printed medial heel wedges inside flat shoes. Video data was recorded and hip adduction angle during loading response
was measured using a spinal goniometer. Results: There was no significant correlation in hip adduction angle with the different heel wedges. Pearson correlation coefficient was $r = 0.02$ for the female group ($p = 0.464$). Conclusion: Short-term malalignment of the calcaneus may not cause excessive joint motion at the hip.

**Chinedu Muo, Psychology**  
*Effects of Socioeconomic Status (SES) on Health Attitudes and Healthcare Accessibility among College-level Students*  
Faculty Mentor: Kevin Dooley, Psychology

Health care access has been a leading issue in U.S. healthcare reform and a general concern for many individuals navigating various medical institutions. Socioeconomic status (SES) or the financial and social resources a patient may have can provide prospective on the difficulties of certain populations in accessing healthcare services. 85 College-level students of various SES were asked to participate in a survey determining their insurance and financial status, ability to pay for certain healthcare services, any obstacles to receiving care, and their overall prioritization of health within their daily lives. Respondents within the three SES groups- Low SES, Mid SES, and High SES were then assessed to determine their relationship among these factors. Using ANOVA, a df of 2, F-value of 2.75, and P-value of 0.069829 were obtained. P-value > significance level of 0.05, therefore the null hypothesis could not be rejected. The differences between the three groups indicate that an under-prioritization of healthcare by Low SES individuals cannot be generalized among all individuals of this group. Implications of this study can be used to assess factors that limit an individual's access to healthcare and their effects, on a case-by-case basis.

**Albert Barrios, Biology**  
*Increased Expression of DUSP9 Increases Embryonic Stem Cell Population to Promote Breast Cancer*  
Faculty Mentor: Shehla Pervin, Endocrinology, Charles Drew University

Breast cancer is influenced by mammary cancer stem cells (MCSCs) that promote its initiation and progression. MCSC population is heterogeneous, where a subset has an embryonic stem cell (ESC) characteristics that contributes to aggressive tumor characteristics. Our lab found a correlation between reduced pERK½ levels and upregulation of DUSP9 in African American Triple Negative (AATN) breast tumors. Tumor cells and host microenvironment increased DUSP9 expression in MCSCs and ESCs. We further investigated the significance of DUSP9 expression in ESC/MCSC populations in AATN breast cancer cells. We examined expressions of DUSP9, pERK½, and ESC markers (Oct¾ and Sox2) from breast cancer cells and its mammospheres by immunoblot analysis and quantitative Polymerase Chain Reaction. We observed effects of adipocytes and Oncostatin M on DUSP9 and ESC expressions. We reduced DUSP9 expression by ShRNA as well as pharmacological inhibition of all phosphatases by treatment with sodium orthovanadate, a phosphatase inhibitor. We performed soft agar assay to examine the importance of DUSP9 in ESCs. We observed that adipocytes and Oncostatin M increased DUSP9 and ESC markers expression. Mammospheres from breast cancer cell lines showed upregulation of DUSP9 and MCSC/ESC markers, which coincided with reduced levels of pERK½. Our study suggests that increased DUSP9 expression contributes to the survival of MCSC/ESC populations in aggressive AATN breast tumors. The downregulation of DUSP9 with ShRNA reduced the expression levels of DUSP9 and ESCs. Inhibition of DUSP9 with pharmacological inhibitor, sodium orthovanadate, caused increase in pERK ½ and reduced SOX2 expression. This data indicate that DUSP9 could be a target to reduce breast cancer initiation and progression.
Desiree Sotelo, Yoseli Jimenez, Gurnell Washington, Bertha Reynoso, Rainy Burkhart, Public Administration
CSUDH Outreach for Undergraduate Public Administration Majors
Faculty Mentor: Fynnwin Prager, Public Administration

California State University of Dominguez Hills, is experiencing a declining enrollment rate in the Public Administration Undergraduate program. The purpose of this research was to investigate the reasons why and to construct applicable and functional resolutions. Through research, data gathering, and analysis our group sought to find beneficial ways to implement new initiatives. An online survey and one-on-one interviews were conducted and showed that there is lack of knowledge among respondents about the Public Administration Degree in general. Additionally, based on the research teams' observations of the program, there are several areas of improvement on part of the University that are affecting the enrollment rate of the Public Administration undergraduate program. Given the results of the findings, some of the recommendations include: Increased outreach within the University, establish partnerships with community colleges, and the utilization of the University’s website. The use of the website may be the most effective innovative tool that the University can utilize in its effort to increase enrollment in the Public Administration Program. Including links on the website made accessible to local community college counselors can help counselors align courses with the Public Administration Program for potential incoming students. As recommended information tools, this paper includes: A list of current job postings from various organizations along with salary ranges for jobs that accepts a Public Administration degree; The showcasing of individuals career path within the Public Administration Field; A sample brochure that provides information to students projected job growth, and mean salary and what to prepare for such as required education. The information provided in this paper is intended to help the University move a step forward in finding resolution to its declining enrollment within the Public Administration Program.

Gurkiran Singh, HarmonJeet Singh Brar, Ishu Juneja, Computer Science
Authentication and Access Control of IOT Using Lightweight Cryptography
Faculty Mentor: Bin Tang, Computer Science

When it comes to securing any interface connected to the Internet, the more secure the better. In a time where traditional authentication methods can easily be hacked into, it is critical for websites and online devices to be secure. At the same access control ensures only the correct person is given the respective access level to ensure the integrity of the data. More number of people now live in a smart society. The ‘Internet of things’ is an emerging technology that a large number of people are becoming aware off. It is a network of devices connected to the internet. Hence with the growing demand for such devices and in a world where many common devices are online, it is important to be aware of the vulnerabilities and to ensure the correct steps are taken. This paper explores how far we have come with the ‘Internet of things’ and how secure it is. Besides that, it also takes a peak on the most important topic of ‘how secure the devices are which are connected to the Internet’.

Eric Thai, Geography
Mapping Crime Data Sheriff & Crime
Faculty Mentor: Parveen Chhetri, Earth Science and Geography

Crime mapping is an already existing and convenient way to police department to map crime occurrences and might informed them of possible future activities. The intended project is to
gather a sample of crime data from the local police department and by using this data I intend to create a map, using ArcMap, to find the concentration and location of crimes located within lower Los Angeles County. I intend to use the data I have obtained from the LA sheriff department and match the address with the actual location on the map, this will display the crime occurrence with a visual perspective. Although this might result in the map being incomplete, due to data from a single source, it will still be within the study area around CSUDH. Hot spot analysis and buffer zone to fine the concentration of assault, arson, burglary, homicide, rape, grand theft auto, and robbery. Other function such as symbology to create a display and IDW (Inverse distance weighted) was also use in the project. Within the table of data the maps shows 241,559 instances of reported crimes with 12,867 instances of Burglary, 12,580 instances of Grand theft auto, 6,797 instances of aggravated assault, 4,648 instances of Robbery, 709 instances of Rape, 501 instances of Arson, 212 instances of Homicide, and other miscellaneous types of crime in the area in Carson city. Within the month of January the amount of crime was the least while May, July and September having a higher than average amount of crime. The intended final goal of the map will show the types of crimes occurred within an area, the number of times the crimes occurred and how close that type’s crime occurred in proximity to the sheriff department. With that information I will discuss what I pulled from this information, what are the underlying reason for these events.

Misha Dowd, Hadeel Labani, Alhanuf Alsulaiman, Computer Science

Energy and Cost-Aware Migration of Groups of Virtual Machines in Distributed Data Centers
Faculty Mentor: Bin Tang, Computer Science

Data centers have many servers to progress services to cloud users. The most important elements for data centers are servers to store data and network switches which connected the servers and storage devices. Servers and switches are connected by network topology. Topology is a way of which some components are arranged and has a different kind of topology like star, bus, ring topology. The most common topology is a fat tree. There are many data centers which connected to gather with links in different locations. The service pay per use is a way of using less workload on data centers by using less switch usage and safe energy. Another way also to strengthen the workload is to move Virtual machines in many data centers to use the servers and switches that not been used in the data centers. Data centers consume a large amount of energy so they need to save as much as they can, so would not be a waste of energy to use more in the future. Studies show that data centers must be aware of consumption of energy by moving VM between the centers to reduce the usage of energy level. The way that data centers migrate VMs between data centers to understand the workload in servers and network switches that been unused in some data centers. The consideration of data centers that are in a variety of locations between cities with a network connection. All centers are related to the same cloud service provider that receive orders to have VMs groups. In every center, they have viewing prose to check the devices that are for workload regularly to see which VMs groups will migrate into other centers. These group set of VMs only are going to migrated if its save energy. The Topology-aware Virtual Machine Selection algorithm to improve the performance in data centers.

Candi Tillman, Sociology

Human-Animal Interaction: A Focus on Companion Pet Detachment
Faculty Mentor: Matthew Mutchler, Sociology

In American culture, humans love companion pets. Domesticated animals, specifically dogs and cats, are obtained by humans and included in the family dynamic. Often, the pets
represent companionship similar to humans such as a child, sibling, friend, etc. Whatever
the reason for obtaining pets, humans commonly view them as a part of the family. Although
companion pets have become such a vital part of American family tradition, local animal
shelters nationwide continue to be overpopulated due to human relinquishment. As a result
of overpopulation, healthy young and adoptable pets are being euthanized by the millions
annually. According to research studies, approximately 70 percent of relinquished
companion pets will not be discharged from the shelters alive. There simply aren't enough
resources to handle the population of unwanted pets. So the question becomes why do
humans choose to acquire pets, only to later relinquish them to a shelter? The aim of this
research is to gain an understanding into why humans love companion pets as family
members but can later detach and relinquish them. In order to accomplish the intended aim,
qualitative research is currently being conducted which includes multiple interviews of both
humans who relinquish and shelter intake workers who witness the relinquishing. In addition,
an analysis of statistics and findings from relevant scholarly articles will be compared to data
acquired from the interview process. Thus far, the interviews successfully transcribed
support much of the information published from previous authors; humans relinquish for
many reasons, but most commonly because of financial stress, domestic changes, lack of
pet training and too much responsibility. The findings from continued interviews and further
scholarly article analysis may provide further insight into the causes of frequent pet
relinquishment; moreover, the resulting data can provide a foundation for seeking a remedy
to the conflicting human-animal relationship.

Samantha Ortiz, Management and Marketing
A new Perspective on Workplace Aggression: Wages, Sector, Occupation and Class
Faculty Mentor: Thomas Norman, Management and Marketing

In the existing knowledge published on workplace aggression, little has been observed on
the level of workplace aggression by class, sector or occupational type. Much of what is
known about workplace aggression is research that is focused on observations from the
private sector (Frederickson & McCorkle, 2013). However, a study conducted by Schat,
Frone, and Kelloway (2006) found through a national survey of Workplace Health and Safety
under a National Institute of Health grant that 41.4% of workers across 15 occupational
categories including public, private and nonprofit sectors experienced psychological
workplace aggression. This is only the tip of the iceberg as to what I believe needs to be
researched to assess the rates at which the aggression is occurring. This study is unique in
examining class differences (e.g. blue collar, white collar) along with specific characteristics
of aggression based on socioeconomic status, job sector and occupational type. This
exploratory research will suggest new approaches to assisting victims of workplace
aggression as improving organizational management to reduce the instances of workplace
aggression.

James Skardoutos, Orthotics and Prosthetics
Does this Look Infected? Skin Issues in People with Lower Limb Amputation
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Our skin is much more than an attractive cover for our innards, it is a major facet of our
physical and even emotional identity. Prosthetic devices should provide structure and support
to the affected limb while also being comfortable enough to wear for prolonged periods. This
study used the Skindex-29 and VAS Pain scale, two validated outcome measures, to
subjectively measure satisfaction of skin condition as well as socket comfort in persons with
unilateral trans-tibial limb differences. Five subjects agreed to partake in the study and their
answers indicate a correlation between skin satisfaction and satisfaction with socket comfort.
These results, though the study has its limitations, show that the psychological state of the patient and how they perceive themselves may influence their opinions of their prosthetic device’s utility.

Jose Aguilar, Sandy Pena, Karlany Meza, Ernesto Flores, Emmanuel Sanchez, Psychology
The Effects of Gender and Ethnicity of a Perpetrator on Perceptions of Physical and Psychological Aggression
Faculty Mentor: Steven Frieze, Psychology

The proposed research was influenced by previous studies that focused on perceptions of aggression that take place in intimate partner relationships. Previous studies demonstrate that physical aggression is perceived as more serious than psychological aggression. In this study we extended the research and looked at the influence that the perpetrators' and victims' gender and ethnicity had on perceptions of physical and psychological acts of aggression. Participants consisted of 120 female students from California State University Dominguez Hills, who volunteered and were arbitrarily selected. Participants received 1 of 12 vignettes and were asked to complete a questionnaire. It was hypothesized that physical aggression would be perceived as more aggressive, and psychological aggression would be perceived as less serious, making it easier to ignore for the participants. It was also hypothesized that the male perpetrators would be perceived as more aggressive in the physical condition than females. Finally, it was hypothesized that those exposed to the White perpetrator stimuli would perceive the physical aggression as being less aggressive than the Black or Hispanic stimulus.

Archana Mohan, Computer Science
How to Improve Quality of Service in IOT Networks
Faculty Mentor: Bin Tang, Computer Science

Because cloud computing is not viable for many internet-of-things applications, fog computing is often used. Its distributed approach addresses the needs of IoT and industrial IoT, as well as the immense amount of data smart sensors and IoT devices generate, which would be costly and time-consuming to send to the cloud for processing and analysis. Fog computing reduces the bandwidth needed and reduces the back-and-forth communication between sensors and the cloud, which can negatively affect IoT performance. While the hypothetical establishments of fog computing are as of now settled, there is an absence of resource provisioning ways to deal with the misuse of mist based computational resources. Our proposed architecture introduced a new scheduling policy for load balancing in Fog Computing environment, which complete real task within deadline, increase throughput and network utilization, maintaining data consistency with less capacity to meet the present day demand of end users. Our IoT-fog-cloud architecture consists of the things layer, the fog layer and the cloud layer. The fog layer lies in between the things layer and cloud layer. The things layer consists of the IoT devices. The fog layer consists of the fog nodes. The cloud layer consists of the cloud servers. These layers are further divided into domains and a single IoT-fog-cloud application is implemented. We also propose the Fog-IoT-Cloud Collaboration Policy where Fog Nodes collaborate with each other to fulfill the request sent from IoT nodes to the fog layer. If a fog node can accept a request based on its current node, it processes the request. However, when the fog node is busy processing many tasks, it may offload the request to some other fog nodes or to the cloud. Finally, we propose a genetic algorithm as a problem resolution and show, through experiments, that the service execution can achieve a reduction of network communication delays when the genetic algorithm is used and a better utilization of fog resources when the exact optimization method is applied.
Robert Head
*Beyond the Classroom*
Faculty Mentor: Matthew Smith

Britany Fauscette, Teacher Education
*Emergent Bilinguals and Student Achievement*
Faculty Mentor: Edward Curammeng, Teacher Education

This study investigated the effects that the SIOP (Sheltered Instruction Observation Protocol) model had on Japanese emergent bilingual students' achievement and motivation within science curriculum. The targeted population consisted of nine Japanese fifth grade emergent bilingual students within an affluent school site. To assess the effects of the SIOP model within this classroom, students took self assessing surveys, quick checks, and participated in purposefully planned collaborative science lessons. This study was limited in the duration but demonstrated the positive support from earlier research on the effectiveness of the SIOP model. It was found that Japanese emergent bilingual students were more engaged when SIOP strategies such as pictorial and video supports were implemented throughout lessons. It was also found that student achievement did improve for these students through the use of SIOP strategies.

Kresimir Reil, Annette Chavez, Michelle Ruvalcaba, Venita Polonio, Jacob Costa, Daniel Cervantes, Javier Murillo, Dominique Moses, Psychology
*Manipulating Resilience in an Everyday Setting: The Effects of Self-Efficacy Priming and Social Support*
Faculty Mentor: Steven Frieze, Psychology

More research regarding factors that can positively influence psychological resilience is needed. Definitions of psychological resilience vary, but most involve two core concepts: adversity and positive adaptation to adversity (Fletcher and Sarkar, 2013). For this study, resilience is defined as an individual’s neuropsychological homeostasis response that fluctuates within a social context, and can be influenced by adverse life events and adaptive-protective factors. Compared to a plethora of research investigating the risk, or adverse factors of resilience, such as PTSD (Thompson, et al., 2011), critical illness and death (Gerhart, et al., 2016), or poverty in adolescent populations (Frazier, et al., 2014), the studies focusing on protective factors of resilience only recently surfaced (Richardson, 2002), and do not necessarily explore resilient responses to daily stressors. Wu, et al. (2012), assess there are various buffers that can increase resilience, and examine optimism and cognitive reappraisal. This research study explores the possible buffering effects of self-efficacy priming and social support on resilience. The first part of the project will involve participants (Cal State University Dominguez Hills students) filling out a three item self-efficacy priming handout, or a three-item handout with unrelated questions. The second part consists of the participants being subjected to a destabilizing event in which either a male or female confederate walk out of the interviewer office in anguish. The third part involves participants undergoing a mock interview in which the interviewer will either be affirmative, non-affirmative, or neutral during the participant’s performance on the Tower of London task, modified to be impossible to complete in the time allotted. Finally, the participants will be assessed with a modified Connor-Davidson Resilience Scale. The researchers hypothesize that self-efficacy priming and social support will increase an individual's resilience. The researchers also hypothesize that there will be no gender differences occurring from the destabilizing event.
Mariana Hernandez Licon, Marialuisa Flores-Jacobo, Aylin Arriola, Chemistry
The Size Control of Copper Sulfate Pentahydrate by Antifreeze Proteins
Faculty Mentor: Sen Wang, Chemistry

The particle size distribution and its size are important characteristics of drugs, materials, fungicides, and herbicides. The size will determine their applications. We will develop proteins and/or peptides as highly efficient additives with the molar ratio of additives vs crystals as 10-6 to control the size and shape of fungicides/herbicides and pharmaceutical agents. Copper sulfate pentahydrate is a fungicide and herbicide. The smaller size copper sulfate pentahydrate has been made by grinding mills for many years. Mills not only cost a lot of energies but also make a lot of dust. Antifreeze proteins (AFPs) can bind to ice and control the growth of ice crystals. AFPs have provided a very intriguing example of protein-crystal interaction in nature. Currently, we discovered that AFPs can efficiently inhibit the nucleation and modify the single crystal growth of copper sulfate pentahydrate. The smaller size crystals available by using a very tiny amount AFPs are better than these by mills. The work will reduce the cost of making copper sulfate pentahydrate at the right size as well as making no dust for industries. Further work will explore the mechanism of AFPs in the inhibition of the nucleation of copper sulfate pentahydrate, which will define the structural range for which AFPs can recognize for copper sulfate pentahydrate and understand the mechanism of the protein-ligand interaction at the liquid-solid interface.

Devon Becker, Orthotics and Prosthetics
Phantom Limb Pain in Lower Limb Amputations
Faculty Mentor: Julie Werner, Orthotics and Prosthetics

Many individuals who have undergone an amputation experience some type of phantom limb sensation, which can be felt as tingling, pressure, or pain. The aim of this study was to evaluate phantom limb pains in persons who have had traumatic amputation compared with persons who have had non-traumatic amputations. Pain levels were assessed in ten participants with lower limb amputations using The McGill Pain Questionnaire. Scores were added with higher pain levels resulting in higher scores. Those with traumatic amputations received a mean score of 42.5 +/- 8.64, while those with non-traumatic amputations received a mean score of 58.75 +/- 17.21 (p= 0.08). These results suggest that the type of amputation type of amputation does not affect the amount of phantom limb pain experienced.

Jennifer Aldana, Alexis Bueno, Psychology
A Preliminary Analysis of Sleep Quality and Risk Behaviors in College Students
Faculty Mentor: Karen Wilson, Psychology

Inadequate quality of sleep is common in college students and associated with poor decision-making. Previous research has also demonstrated that poor sleep is associated with risk behavior. The purpose of this study was to analyze the relationship between poor quality of sleep, decision-making and risk behaviors in college students. College students attending a university in Southern California participated in a pilot study that is part of a larger study examining additional factors related to sleep. The participants (N=16) that included 5 males (31.3%) and 11 females (68.8%) between the ages of 18-39 (M=24.06), completed the Pittsburgh Sleep Quality Index (PSQI), a ten-item questionnaire that assessed quality of sleep. They also completed the Iowa Gambling Task (IGT), a measure of decision-making skills under conditions of risk and uncertainty. For this study, the quality of sleep was measured over a period of seven days. Data was collected in two in-person meetings followed by a testing session that included the Iowa Gambling Task. The primary aim of this study is to explore the relationship between poor quality of sleep, risk behavior and decision-
making. It is hypothesized that poor sleep quality will be associated with poor decision-making and riskier behaviors. The results of this study did not support the hypothesis that poor sleep quality is associated with poor decision-making and riskier behaviors. A paired t-test was conducted and although all 16 participants reported very good quality of sleep, there was no significant difference in poor decision-making and good decision-making (t=1.10, p=.289). The small sample size may have contributed to these results. A significance may be found in the larger ongoing study examining additional related factors.

Andrea Guzman, Biology
*Genetic Diversity in the Pale Evening Primrose*
Faculty Mentor: Kathryn Theiss, Biology

Predicting how plant species will evolve in the face of global climate change is one of the most important and challenging fields in current botanical research. Climate change affects the timing of plant flowering as well as activity of pollinators, which could lead to increased rates of self-fertilization, decreasing genetic diversity and therefore adaptive potential. The evening primroses (Oenothera; Onagraceae) are an emerging model system that are ideal for testing evolutionary questions related to breeding system and climate change. We are focused on the Anogra+Kleinia clade, specifically the pale evening primrose, Oenothera pallida ssp. pallida. Currently, we lack knowledge on the population genetic diversity in this species and therefore, we cannot adequately predict how these populations will evolve given the changing climate. Using previously developed microsatellite markers, we evaluated population genetic diversity across 10 populations spanning the full range of this taxa. Microsatellite markers are short tandem repeats that evolve rapidly and are useful for studying genetic diversity across a wide range of taxa. During the summer of 2017, we collected leaf tissue samples from 12 populations of the pale evening primrose and extracted the DNA. Two of the populations did not yield promising DNA and were excluded from future analyses. We then used microsatellite markers corresponding to both the chloroplast and nuclear genomes to evaluate differences in population genetic diversity. Some of these differences correlated to geographic patterns, however this did not fully explain all of the patterns. In the future we will try to correlate genetic diversity with breeding system, to understand how this will affect population-level evolution.

Joel Avalos, Hugo Duran, Health, Nutrition, and Clinical Science
*Dr. Sebi & the Sebian Diet*
Faculty Mentor: Andrew Kalaidjian

Dr. Sebi, a herbalist, naturalist, biochemist, and pathologist, has personally observed and closely studied plants and herbs located in North, Central, and South America as well as Africa and the Caribbean for over thirty years. His methodology, established with decades of lived experience, is designed to completely heal the human body via the Sebian diet, which consists of herbs, fruits, vegetables, and natural spring water. After being diagnosed with obesity, diabetes, impotency, and asthma, Dr. Sebi immediately sought healing. Since western conventional doctors and traditional medicine and treatments were unsuccessful at healing his disease in the United States, he traveled to Mexico and met a herbalist, who taught him exactly how to heal himself from disease. Acidity in the human body leads to mucus formations and accumulations in vital organs, which then causes disease. The body organs that are most affected by acidity are the liver, colon, gallbladder, kidneys, lymph glands, and skin. Dr. Sebi has learned and teaches about a strict vegan diet, known as Sebian diet, that includes natural remedies for cleansing and detoxifying the body from long years of toxins. This type of cleansing moves a body from the state of acidity to alkaline.
Further, cell foods restore and heal cell tissue that has been heavily damaged and weakened by acidity. The Sebian diet, which is composed of cell foods with natural origins and vegetation compounds, removes mucus from the body and heals it entirely from disease.

Joel Avalos, Hugo, Duran, Health, Nutrition, and Clinical Science
The Benefits of Meditation
Faculty Mentor: Andrew Kalaidian

This research aims to provide the campus community with a definition of meditation, its benefits, and importance. Meditation is sometimes used in religious practice for prayer and connecting with a higher being, such as God. Meditation is mostly linked to stress relief, decreased fatigue, reduction in appetite, more relaxed body and posture, and increased alertness and productivity. Meditation is extremely healthy and safe. Some reasons people do not meditate are not enough time, too busy, no safe space, or they do not know where to start. Meditation can be done in a simple way by feeling connected with oneself, being aware of the world around them in the present moment, and not worrying about time, day, or location. Meditation gives the brain a break from all the commitments. It can be done at anytime during the day in short or long periods. Students can meditate before, after, or during the day to increase work productivity, rather than watching television or spending time on social media. Meditation as a beginner may not be done in a perfect way, but improvement occurs overtime, and results are felt instantly.

Jason Williams, Chemistry
NMR Methods in the Elucidation of Quinone Alkaloids from Mostuea brunonis with Activity Against U87 Brain Glioma Cells
Faculty Mentor: Patrick Still, Chemistry

Mostuea brunonis is a shrub or climbing liane, with white flowers that may be pink or lilac with an orange to red throat, which is distributed primarily in sub-Saharan Africa. An extract of Mostuea brunonis was obtained from the NCI Active Repository Program and tested for cytotoxic activity against U87 glioblastoma cancer cells, using a sulforhodamine B colorimetric assay. A chromatographic sub-fraction of M. brunonis containing the quinolone alkaloid, pumiloside (1), showed a U87 glioblastoma cancer cell survival rate of 25.7%. Adjacent chromatographic fractions revealed the presence of a m/z = 511 [M+H] + signal in the crude LC-MS spectrum. Purification of this signal employed a binary solvent gradient method using 20:80 to 50:50 (ACN-H 2 O) over 10 minutes using a Waters X-Bridge C-18 column. Preliminary inspection of the m/z 511 signal showed the compound to be an analogue of 1 fully saturated at position C18/19. Further analysis of the 1 H NMR spectra also showed additional resonances at 2.6ppm and 5.9ppm suggesting a new analogue of 1. Further dereplication of the structure and 2D NMR spectra is being done to fully elucidate the compound. The results obtained here are support for structurally novel compounds from M. brunonis that have potential applications toward the treatment of refractory brain glioblastoma (GBM) cancers.

Johanna Roman, Robert Nasatav, Jason Sender, Psychology
Don’t Sweat the Small Stuff: Effects of Gratitude and Materialism on Student Stress and Wellbeing
Faculty Mentor: Giacomo Bono, Psychology

College students sometimes cope with the stresses of college by engaging in materialistic behavior. But does this help? Should college students focus on building supportive
relationships with peers instead? This study hypothesizes that gratitude will help students better deal with stress than materialism. Research shows that gratitude helps individuals cope with stress and achieve well-being (Wood et al., 2008) and that it is negatively related with materialism (McCullough & Polak, 2006). Materialism, on the other hand, tends to be harmful for individuals' well-being (Dittmar et al., 2014). A main reason for this is because gratitude fulfills humans' fundamental needs whereas materialism does not (Tsang et al., 2014). The current study is a short term longitudinal correlational study on the effects of gratitude and materialism on stress and well-being in college students. Participants consisted of undergraduate students (N=65) enrolled in psychology classes at California State University Dominguez Hills. The study was approved by the CSUDH-IRB and participants who provided consent completed surveys at the beginning of the semester and at the end for course credit. Therefore, this study uses pretest-posttest correlation design. Participants completed surveys online through Survey Gizmo. The purpose of this research is to replicate Tsang et al.’s study by examining if gratitude and materialism are negatively related to each other and to stress and well-being because of their different effects on need fulfillment in young adults. This study also examines how different aspects of gratitude are related to materialism and how both behaviors are related to a wider view of well-being that includes stress and financial responsibility – two issues that are important to quality of life for college students.

**Michelle Zaragoza, Social Work**

*From the US to Norway: Narratives of LGBTQ+Social Work Students*

Faculty Mentor: Maria Avila

Social work organizations from around the world have drawn policies that name people of various sexual and gender identities including Lesbian, Gay, Bisexual, Transgender, and Queer+ (LGBTQ+) as a vulnerable population. However, concerns have been raised in the US and in other countries that the profession has not adequately addressed LGBTQ+ issues in social work education, going as far as to suggest that heteronormativity is prevalent in curriculum, research journals, and program environments. For example, an examination of the experiences of LGBTQ+ social work students in the US, Canada, and UK suggest that indeed, students notice a lack of visibility of LGBTQ+ issues in curriculum, experience an unsafe climate in their program, and in some instances, face harassment and subtle forms of prejudice. This cross-cultural qualitative study draws from narratives elicited from students currently enrolled in the Department of Social Work at a public university in California, United States; and the Department of Health, Social and Welfare Studies at a college in Southeast Norway. The study involves face-to-face interviews with 8 LGBTQ+ graduate social work students, employing a narrative methodology to explore the critical processes of identity construction, negotiation, and integration at the intersections of sexual, gender, and social work identities within their programs and the larger social and cultural domain. The following research questions will be explored: (1) What are the experiences of graduate students in social work that self identify as LGBTQ+? (2) How do they construct, negotiate, and/or integrate their sexual, gender, and social work professional identities? (3) What are some themes that arise from U.S. and Norwegian students that inform the dynamic interaction and reciprocal influence of identity and social work education? Implications for social work education will be discussed.

**Gabriela Galvez, Human Services**

*The Power of Resilience: Understanding the Experiences of DACAmented Latinx College Students*

Faculty Mentor: Joanna Perez, Sociology
Latino undocumented immigrants living in the U.S. are constantly criminalized by the dominant society and are impacted by various forms of social inequality due to their lack of legal status. Although many Latino undocumented immigrant young adults have lived most of their lives in the U.S., they continue to suffer harsh life circumstances because of their state of legal limbo. On the other hand, undocumented immigrant young adults have gained a sense of belonging through Deferred Action for Childhood Arrivals (DACA), a program established under the Obama administration that grants those who are eligible access to a work permit and relief from deportation. However, the Trump administration recently announced that it was rescinding DACA and increasing deportation rates. For my research project, I examine the mental health of Latinx college students that have suffered from the current political climate. The main research question in my study is, how does legal status impact the educational and personal experiences of DACAmmented Latinx college students at California State University Dominguez Hills? In the process, I will also address the following sub questions: (1) how does society shape the lived experiences of these students on a micro and macro level? (2) how has (or has) overall mental health changed during the Trump campaign and post-election? and (3) what forms of resiliency do these students show? This population is vulnerable and often encounters multiple barriers when pursuing a higher education. Drawing on in-depth interviews, this qualitative project will provide an analysis on the mental health of Latinx DACAmmented CSUDH college students during the Trump administration. The ultimate goal of this project is to demonstrate how resilient DACAmmented students are, especially post-presidential elections.

Judith Castaneda, Management and Marketing
Pennsylvania State University Sandusky Scandal Research
Faculty Mentor: Gary Polk, Management and Marketing

After 14 years of sexually assaulting young boys, why was Sandusky’s crime kept hidden for so long? Whose moral responsibility was it to defend the lives of these victims? Why did the leaders of the university fail to do the right thing in this case? Through this research we will address these ethical dilemmas and further investigate what was the right thing to do at Pennsylvania State University (PSU). Louis Freeh, former FBI Director was hired by PSU’s Board of Trustees to investigate the scandal after news broke that the university’s most recognized staff covered up Sandusky’s crime for so long. We will use The Freeh report developed by Louis Freeh himself, as our primary research vehicle to help us understand what happened at Pennsylvania State University from 1998- 2012. Jerry Sandusky assistant coach of the PSU’s football team was accused of assaulting 10 victims, all boys around the age of 10 -12 years old. Joe Paterno, head football coach at the time, knew of the crime but along with the University President, Vice President of Finance, and Athletic Director, kept Sandusky's actions hidden from authorities and media. After Joe Paterno was fired by the Board of Trustees for protecting a sex offender, he was quoted to have said “I should have done more.” Our research will demonstrate how critical thinking can be used to understand the different perspectives needed to form a final ethical conclusion. We will use the ethical dilemmas in this case as the framework to demonstrate the role of followers as well as leaders. We will emphasize the moral and ethical responsibilities followers have to do the right thing in their organizational and personal lives, through this also demonstrating that ethics can and should be taught.

Griselda Bernabe, Psychology
Family History, Disease Threat and Health Outcomes among at risk Latino students
Faculty Mentor: Silvia Santos, Psychology
This study is part of a larger NIH funded investigation that seeks to examine the influence of family illness-history on beliefs regarding disease threat and health related outcomes among Latino students who are at risk for future diabetes acquisition due to genetic predisposition. The sample included 156 Latino college students ages 18 to 60. Based on the NIH Diabetes Risk Test, 30.7% of the sample was classified to be at low-risk for diabetes, 44% at moderate-risk, and 25.3% at high-risk. Participants completed a comprehensive survey that assessed constructs identified in the Health Belief Model (HBM) and Common Sense Illness Model (CSIM) of disease. The results presented center on the relationship between family history of diabetes on perceptions of disease threat to self if acquired, perceived risk for disease acquisition in the future, and disease seriousness/threat on participants’ self-rated perception of health, health importance and objective health indicators. The findings of the path analysis using linear regression revealed an indirect positive effect between a family members illness severity to disease seriousness/threat which in turn negatively impacted participants’ perception of their own health status. Illness severity of the afflicted relative also impacted how threatening diabetes would be to self if acquired which in turn impacted participants’ views on health importance. Lastly, degree of familial genetic risk was associated with a higher perceived risk for disease acquisition which in turn was related to having a higher BMI index and diabetes risk score and a more negative perception of one’s health status among participants. The results suggest that the influence of family illness-history on objective and psychological health-outcomes are mediated by disease-threat indicators.

Danny Rivas, Physics

Analyzing student comprehension of forces and spatial reasoning skills by instructor and content in introductory mechanics
Faculty Mentor: Ximena Cid, Physics

Physics education research studies the teaching and learning of physics. Our group is interested in understanding the relationship between visual/spatial cognition and comprehension in physics content. During the fall semester, we had two goals. The first was to assess students’ capabilities to learn introductory mechanics. In particular we wanted to understand if there are differences between gains in comprehension, as measured by the Force Concept Inventory, between lecture instructors. The second goal was to explore the relationship between spatial reasoning skills, as measured by the Mental Rotation Test, and one’s ability to be successful in learning physics. Mentally rotating objects is a cognitive skill that is crucial to understanding complex ideas beyond 2D problems, include complex content covered in electricity and magnetism, quantum physics, relativity, thermodynamics, etc. Data was collected in the beginning of the semester in order to assess the level of content preparation students come into Physics 130 with. The data is then compared to the same assessments given in the end of the semester in order to quantify how much students learn during the semester. Using statistical tests such as the analysis of variance, (ANOVA), we compared the difference of means for two variables: instructor and physics content. This talk will focus on the data analysis of the ANOVA, as well give a discussion to describe any relationships we find between spatial reasoning and student comprehension in physics.

Elizabeth Guillen, Communications

Gender Role Representations in Cartoons: An examination of changes, through textual analysis to show how gender role representations have changed in cartoons
Faculty Mentor: Linda Dam, Communications
Cartoons have evolved over time and have given children progressive gender roles that are not exclusively for females or males. Previous research has suggested the importance of identifying whether cartoons may affect the way that children perceive their gender role (Atay & Danju, 2012). The purpose of this research is to contribute to the existing research that has been conducted on gender roles that are presented in the media through the cartoon show The Loud House. The Loud House focuses on a 10-year-old boy and his ten sisters – each sister has a different personality and represents different gender roles that they may have without necessarily being part of what is seen as normal gender roles. Several episodes focus on LGBTQ representations, gender role swapping among men and women, and regular life events that people would go through. This study will contribute to existing research by showing that cartoons play an important role in the gender roles that children are exposed to as they grow up. Specifically, this research will examine three episodes from the first two seasons of the show and will apply concepts from gender role research in other forms of media (Mühleisen, 2008; Nelson, 2011; Smith, Pieper, & Granados, 2010). Through a textual analysis, this examination of various episodes of the cartoon illustrates the progressive gender role representations. Results showed that cartoons have progressed and have implemented gender role representation changes such as LGBTQ representations and reversal roles for males and females.

**Luis Pena, Chemistry and Biochemistry**  
*Preparing a substrate for Histone Demethylase Assay*  
Faculty Mentor: Tieli Wang, Chemistry and Biochemistry

The purpose of this project is to study histone methylation to prepare a substrate to react with histone demethylase using proteomics. Current work in the Wang group is to prepare substrate to inhibit the methylation activity of Lysine residue at N-4 terminal position of the Histone H3 protein (ARTKQTAR). The methylated products of Histone H3-peptides were prepared using different methods. In the first scheme, a histone peptide with sequence H-ARTKQTAR was reacted with formaldehyde in the presence of cyanoborohydride in sodium acetate buffer (pH 5.3) overnight at room temperature. The 2nd scheme uses the same peptide react with temozolomide in phosphate buffer at room temperature for 24 hours. The 3rd scheme consisted of a mixture of peptides, 90:10 methanol/water solution, ammonium hydroxide, and methyl iodide. The reaction products were subsequently analyzed by Mass Spec and Western Blot Analysis to detect the methylated products of the peptides. In the end, all reactions were confirmed to have a certain level of methylation activity using Liquid-Chromatography- Mass Spectroscopy (LC-MS). The first reaction method produced mono, di and tri methylated peptides, while the other two methods yielded a mixture of methylated peptides from mono-methylated to deca-methylated products.

**Joel Avalos, Hugo Duran, Health, Nutrition, and Clinical Sciences**  
*Exercise's Effects on the Human Bod*  
Faculty Mentor: Andrew Kalaidjian

This research aims to provide the campus community with information about exercise and its benefits. Exercise attributes to greater reaction time, increase in muscle tissue, better stamina, weight loss, and reduces obesity. Those who exercise with a partner or in groups can generate better, if not, faster results because each member is held accountable. There are many reasons to exercise such as to reduce blood pressure, maintain a healthy lifestyle and a healthy body weight. The greater the intensity of exercise, the greater the benefits. The main reasons people do not exercise are due to location, status, personal preference, lack of energy, time, or motivation. Before strategies can be used to overcome this, there needs to
be a clear understanding of people’s demographics, prior views/knowledge or experience on exercise, and influences. By targeting and terminating excuses for not exercises, and or external factors, people will be healthier and more active. Exercise as a beginner may not be done in a perfect way, but improvement occurs overtime.
Teachers should study the communities in which they work so that they will be familiar with their students’ environments and better understand what their students go through in their community. How does the environment influence how they live? What are the characteristics of the environment regarding community services, safety, healthcare, access to technology, food, etc.? The purpose of this ethnographic research project was to study the Carson community to see how the schools are, how the community works, and what the different environments are like. To do this, we conducted observations, internet searches, and interviewed community members. In the school and only 52 blacks and 12 white kids in the whole school. There is an equal amount of black and whites for the whole population in the community—21,864 white and 21,856 black—but majority of the population are Latinos with 35,417. We hoped to learn more about the schools community and why there are only 12 white students in the whole school. We analyzed the data by cultural themes. The first theme was diversity. Most people interviewed spoke another language like Spanish, they were from different races and backgrounds, and considered Carson one of the most diversified places they’ve lived in. The second theme was welcoming community: we learned that Carson was beautiful and welcoming, people were generous and friendly, it was safe, and there was no gangs and a lot of security. The final theme was the presence of poverty despite looks. Parts of the city are still in process of being built, roads in need of repair, some community members have Section 8 vouchers, some people receive low wages. Teachers can use the information they find to be more accommodating to the student, their situations, and their environment.

Carlos Cuevas, Computer Science

*Network Wide Ad-blocker*

Faculty Mentor: Mohsen Beheshti, Computer Science

For a decade now, mobile applications have been growing in popularity. These applications are normally free of charge; in other words, users are susceptible to the idea of a free application. As a result, users are pestered with advertisements while using free applications. Advertisements pose a threat to your device because they could be intended to gather your personal information. In fact, users are more vulnerable to malicious advertisements because most attacks go unnoticed. Meanwhile, advertisements are collecting your browsing data, and slowing down your network and overall performance. In my research will make use of ad-blocking software at the router level using a Raspberry Pi as the primary computer for my network wide ad-blocker. Blocking advertisements at the router level can be made possible by implementing Pi-Hole to a raspberry pi. It will then use your existing network and act as the network server for all your devices. Pi-Hole is essentially software dedicated to blocking advertisements. The software is embedded with an interface that lets users monitor their network traffic. This Adds an additional layer of security for your network. Ad-blocking software is available for all consumer. They provide the same benefits as an ad-blocker, but their software is limited to one device. Installing an ad-blocker to each device is time consuming, inefficient, and takes up memory on your device. As a security measure, I plan to make use of a Raspberry Pi to serve as a network-
wide ad-blocker. The Raspberry Pi will provide continuous ad-blocking service, monitoring, and statistics of your network traffic behavior. Thus, protecting your devices and data from malicious advertisements.

Nathanael Buck, Computer Science
Security Testing in Public Cloud Computing
Faculty Mentor: Mohsen Beheshti, Computer Science

It wasn’t until less than 10 years ago that cloud computing has explored in popularity. From business uses to just regular consumer uses; cloud computing has increasing been a preferred way to save and access their data anywhere they want from their computer to their smartphone if there is internet access. With any technology or service that depends on storing someone’s information on third party servers, security becomes a major concern when dealing with a business-like cloud computing. This paper will explore the effectiveness of the most known public cloud services and see how efficient do they really protect someone’s data. Through some testing, this paper will show the strength and vulnerabilities of three cloud computing services and possibility find areas that need more improvement than others. This will be done by running several vulnerability scanners and comparing the results on each one. Through the end of this test, I’ve learned that externally, there are mostly strength to each cloud computing services, there are some vulnerability found that raise some concern and some security certificate that need to have to be looked at again. Further research is needed to get a more in-depth analysis of each cloud computing service in order to find more vulnerabilities.

Melissa Guardado, Biology
Zebrafish: A Model to Study Skin Disease
Faculty Mentor: Fang Wang, Biology

Zebrafish are small freshwater fish that are used as model organisms for biomedical research. These fish have high similarity to human at a molecular level, and are also inexpensive to maintain. Gene expression can be detected and manipulated in their embryos and their transparency allows scientists to observe the developmental process easily. Zebrafish have been very useful to for modeling heritable human diseases, including various skin diseases. Different disease models can be created by altering zebrafish genome or its gene expression. In my lab, I work with zebrafish and look at the interactions between the skin cells and neuron cells and see how they can affect the sense of touch in the zebrafish. I am specifically learning a procedure called in situ hybridization, which is a technique used to detect specific mRNA within individual cells to provide insight into gene expression. This procedure requires many steps and it is a three day procedure that we use to know if it confirms gene expression in skin cells or other tissue in these stages: 20 ss, 52 hpf, and/or 72 hpf. In the future I hope to further enhance my skills and knowledge to be able to go more in depth to make better treatment for these skin diseases in humans.

Elizabeth Vicencio, Son Duong, Jeanne Cooper, Cristal Castro, Malcolm Johnson, Public Administration
What Activities are Local Governments Pursuing to Promote Entrepreneurship
Faculty Mentor: Hugo Asencio, Public Administration

Entrepreneurship-the capacity of economic agents to create new business-plays an important role in promoting economic growth and productivity. Despite the importance of entrepreneurship, research on the activities that local governments are pursuing to promote it remains underdeveloped. This study contributes to the literature by answering the
following question: what activities are local governments pursuing to promote entrepreneurship? The study uses data collected from semi-structured interviews with local economic development professionals in Southern California. The results indicate that due to a number of factors, including budgetary constraints, local governments are not doing enough to stimulate new small business activity within their jurisdictions. The study discusses the implications of the findings and offers suggestions for future research.

Jennifer Zuniga, Teacher Education  
*Motivating Latinos to Higher Education*  
Faculty Mentor: Edward Curammeng, Teacher Education

The purpose of this qualitative research study was to investigate the ways in which a teacher can help motivate first generation Latino students to consider and eventually apply to college. There are many obstacles in the way of Latino students applying and getting to college, but one way that we can help remedy that is by exposing them to the information and resources they need to accomplish that goal. In this research study I investigate how encouraging a student’s motivation through self-determination theory, tapping into a student’s mesosystem to utilize their ecological systems, and finally asking them to consider a growth mindset in the process that is applying to college. The subjects of my research are the students in my eleventh grade English class. Through a series of surveys, lectures, discussions and presentations the students learn about the college application access and what can help them overcome their obstacles. The results indicate that with exposure and vital relationships formed, students can be motivated to want to pursue a college career.

Mayleth Martinez, Chicana/o Studies  
*Perceptions of Boxing: How Children and Adolescents Feel about Virile Values*  
Faculty Mentor: Mario Obando, Chicana/o Studies

Adolescent and children after received unwritten codes as to what is appropriate for them for age-wise and gender-wise, boxing while usually introduce young boys for physical masculine strengths, courage, and power is now more recently available to young girls for the same developing reasons. Previous research has found that theses masculine traits are related to the socio-economic status, cultural and moral beliefs the youth belongs to. Yet previous research on this pre-assign codes on children and adolescent has been inconclusive. The purpose of the study is to examine the unwritten codes for young boys and girls. The study will shed light the perception of what is appropriate and inappropriate according to their pre-conceived gender roles. The hypotheses of the study will be that marginalized cultures praise more the expression of virile values on male youth than females. This study will consist of observational data and interviews to 10 Latino(a) participants, five boys and five boys, between the ages of 10-16 years of age. The study expects to find out different perceptions between young males and females. The study results may help understand the positive and negative awareness of virile values through boxing at a young age.