2020 UCLA NATIONAL McNAIR CONFERENCE

WEDNESDAY, JULY 29 to FRIDAY, JULY 31

A FORUM FOR MCNAIR SCHOLARS TO PRESENT THEIR RESEARCH, PREPARE FOR GRADUATE SCHOOL, AND CONNECT WITH EACH OTHER

PROGRAM

For more information, please visit: *mcnair.aap.ucla.edu*

WELCOME

2020 NATIONAL McNAIR SCHOLARS CONFERENCE AT UCLA

On behalf of the UCLA McNair Research Scholars Program and UCLA Academic Advancement Program, welcome to the 2020 UCLA Virtual National McNair Conference. We are honored to be hosting the conference online for the first time this year, and are pleased that you have chosen to join us.

Scholars, over the next few days, you will have the opportunity to present your research, prepare to apply to graduate school, and network with current UCLA graduate students. Perhaps most importantly, you will have the opportunity to connect with other students from all across the country. Program directors and staff, thank you for selecting this opportunity and making the time to attend. We hope that you too can connect with your peers at other institutions, expand your network, and exchange ideas. And to our faculty and workshop presenters, we greatly appreciate your participation and contributions to this conference. Your presence and interest in these young scholars as they prepare for graduate school are invaluable.

In addition to our exciting schedule, we invite you to join us this fall for a virtual Graduate Opportunities Fair hosted by UCLA. There will be a variety of graduate programs showcased at the fair for you to explore, along with representatives from graduate schools across the country to connect with. Please take full advantage of all this conference has to offer from wherever you are logging in from. There are over 450 students and staff representing 35 universities participating in this virtual forum. The potential for a rich exchange of ideas is just clicks away.

We wish you all a productive, valuable and fun experience. Welcome to the virtual Conference experience at your fingertips.

ABOUT
McNAIR
SCHOLARS PROGRAM

McNAIR RESEARCH SCHOLARS PROGRAM

Through a grant competition, funds are awarded to institutions of higher education to prepare eligible participants for doctoral studies through involvement in research and other scholarly activities. Participants are first-generation and low-income students and students historically underrepresented in graduate school who have demonstrated interest in and academic potential for doctoral programs. Institutions work closely with participants as they complete their undergraduate requirements. Institutions encourage participants to enroll in graduate programs and then track their progress through to the successful completion of advanced degrees. The goal is to increase the attainment of Ph.D. degrees by students from historically marginalized backgrounds.

All McNair projects must provide the following activities: opportunities for research or other scholarly activities; summer internships; seminars and other educational activities designed to prepare students for doctoral study; tutoring; academic counseling; and activities designed to assist students participating in the project in securing admission to and financial assistance for enrollment in graduate programs. McNair projects may also provide the following additional activities: education or counseling services designed to improve financial and economic literacy of students; mentoring programs involving faculty members at institutions of higher education or students, or any combination of such persons; and exposure to cultural events and academic programs not usually available to historically underrepresented students.

DR. RONALD E. McNAIR

Dr. Ronald E. McNair was the second African American astronaut to join NASA. He was born to a family in racially segregated South Carolina and had an affinity for science and space early on in his childhood. He overcame many structural barriers to pursue his love of learning, major in Physics, and graduate magna cum laude from North Carolina A&T State University, Greensboro. Afterwards, he attended M.I.T. to attain his Ph.D. in Physics by the age of 26.

Dr. McNair was nationally recognized for his work in the field of laser physics. In addition, he received three honorary doctorates, a score of fellowships and commendations, a black belt in karate, and a reputation as an accomplished saxophonist. Dr. McNair flew his first mission as an astronaut in 1984 and was aboard the Challenger space shuttle that exploded on lift-off in January 1986. He died tragically at the age of 35.

The federal programs that carry his name seek to equip students with knowledge, courage, and an unshakable will to succeed. The program encourages first-generation, low-income, and historically underrepresented students to pursue post-baccalaureate studies specifically leading to doctoral degrees.

TRiO
RONALD E. McNAIR
POST-BACCALAUREATE
ACHIEVEMENT PROGRAM

TED W. LIEU
33RD DISTRICT, CALIFORNIA

COMMITTEE ON THE JUDICIARY

COMMITTEE ON FOREIGN AFFAIRS

403 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225–3976

1645 CORINTH AVENUE, SUITE 101
LOS ANGELES, CA 90025
(310) 652–3095

1600 ROSECRANS AVENUE, 4TH FLOOR
MANHATTAN BEACH, CA 90266
(310) 321–7664

Congress of the United States
House of Representatives
Washington, DC 20515–0533

July 29, 2020

Dear Friends,

It is my honor to welcome you to the 2020 UCLA Virtual National McNair Research Conference. Through research and the strengthening of valuable connections, TRIO students throughout the United States have the opportunity to further their educational goals.

I am delighted to join the UCLA McNair Research Scholars Program and the UCLA Academic Advancement Program in acknowledging the Ronald E. McNair Postbaccalaureate Achievement Program Scholars for their outstanding dedication to academic achievement. Congress designed the McNair Scholars Program to foster the pursuit of doctoral studies in historically underrepresented undergraduate students through research engagement. Dr. McNair's life, which has served as an inspiration to us all, has been demonstrated through your work across disciplines - Humanities, Arts, Social Sciences, and STEM fields.

As a Member of Congress, I am proud to support our nation's young scholars whose passion for creating social change through scholarship and research is truly remarkable.

Thank you for your important work and best wishes for a memorable event.

Sincerely,

Ted W. Lieu

Ted W. Lieu
Member of Congress

KEYNOTE
SPEAKERS

KEYNOTE SPEAKERS

TYRONE C. HOWARD, PH.D.
Professor of Education
Pritzker Family Endowed Chair in Education to Strengthen Families
Director, Black Male Institute

Tyrone C. Howard is professor in the Graduate School of Education and Information Studies' at UCLA. Dr. Howard is also the inaugural director of the new UCLA Pritzker Center for Strengthening Children and Families, which is a campus wide consortium examining academic, mental health, and social emotional experiences and challenges for California's most vulnerable youth populations. He is also the former Associate Dean for Equity, Diversity & Inclusion. Professor Howard's research examines equity, culture, race, teaching and learning. Professor Howard has published over 75 peer reviewed journal articles, book chapters, and technical reports. He has published several bestselling books, among them, Why Race & Culture Matters in Schools and Black Male(d): Peril and promise in the education of African American males. His two most recent books, All Students Must Thrive, focuses on equity, race, trauma, and learning has become a must read for all educators. And "No More Teaching Without Positive Relationships" examines the importance of relational trust between teachers and students to enhance students' learning. Dr. Howard is considered one of the premier experts on educational equity and access in the country. Dr. Howard is also the Director and Founder of the Black Male Institute at UCLA, which is an interdisciplinary cadre of scholars, practitioners, community members, and policy makers dedicated to examining the nexus of race, class, and gender of school age youth. A native and former classroom teacher of Compton, California, Dr. Howard was named the recipient of the 2015 UCLA Distinguished Teaching Award, and was named an AERA Fellow in 2017. During the last five years, Dr. Howard has been listed by Education Week as one of the 60 most influential scholars in the nation informing educational policy, practice and reform.

TRACY L. JOHNSON, PH.D.
Professor of Molecular, Cell and Developmental Biology
Cecilia and Keith Terasaki Presidential Endowed Chair
Howard Hughes Medical Institute Professor
Chair and Director, Biomedical Research Minor
Incoming Dean of Life Sciences

Professor Johnson earned her bachelors degree from UCSD in Biochemistry and Cell Biology and her Ph.D. in Molecular and Cell Biology from UC Berkeley. She was a Jane Coffin Childs postdoctoral research fellow at the California Institute of Technology (Caltech). Dr. Johnson began her first faculty position at UCSD in and moved to UCLA to join the faculty in 2013. Dr. Johnson's laboratory focuses on understanding mechanisms of gene regulation, particularly RNA splicing, chromatin modification and the intersection between these reactions.

Dr. Johnson has served on a variety of scientific boards including the RNA Society Board of Directors, the HHMI Professors Executive board, the National Cancer Institute Board of Scientific Advisors, and served as the chair of the Molecular Genetics NIH study section. She is the recipient of numerous awards including the NSF CAREER Award, the Presidential Early Career Award for Scientists and Engineers (PECASE), and in 2013 was named of the Top 20 Women Professors in California. In 2014, Dr. Johnson was named a Howard Hughes Medical Institute Professor. She currently serves as the Chair and Director of the Biomedical Research Minor here at UCLA.

Dr. Johnson has been actively involved in a number of education initiatives to support the development of students, particularly those from underrepresented groups, including the HHMI Pathways to Success program, which fosters academic success for students, in part by early exposure to research. She is serves on the Steering Committee for the Annual Biomedical Research Conference for Minority Students (ABRCMS), one the largest professional conferences for underrepresented students. In 2017, Dr. Johnson received the 2017 Academic Senate Award for Career Commitment to Diversity, Equity, and Inclusion and in 2018 she received the Life Sciences Award for Excellence in Promoting Diversity, Equity, Inclusion.

Dr. Johnson was recently appointed as the Dean of Life Sciences at UCLA beginning in September 2020.

CONFERENCE HOSTS &
COMMITTEE

CHARLES J. ALEXANDER, PH.D.
Associate Vice Provost for Student Diversity
Director, Academic Advancement Program

A scholar and advocate of pipeline programs for the health professions, Charles J. Alexander, Ph.D., currently serves as the Associate Vice Provost for Student Diversity and Director of the Academic Advancement Program at the University of California, Los Angeles (UCLA). He provides full-time executive and intellectual leadership for a collection of programs designed for approximately 5,500 undergraduates from diverse populations, who have been historically underserved by higher education; these include students from low-income families, first-generation college students, and students from historically underrepresented. In addition to his role as Associate Vice Provost, Dr. Alexander is an Adjunct Associate Professor in the School of Dentistry's Division of Public Health and Community Dentistry. He has been a consultant, board member, and peer reviewer for federal agencies, foundations, and universities, and has written many articles on the health professions pipeline and workforce diversity in the health professions. He was recently appointed to the Technical Advisory Committee of the California Future Health Workforce Commission, co-chaired by Janet Napolitano, President of the University of California, and Lloyd Dean, President and CEO of Dignity health. He has also been the recipient of many awards and honors among them are, a Presidential Citation from the American Dental Education Association (ADEA), and The California Wellness Foundation's Champion of Diversity Award. In February of 2013, the Governor of the State of California appointed him to the Medical Board of California, Physician Assistants Board for a four year term which was recently renewed in 2017. Dr. Alexander earned degrees from the State University of New York (SUNY) at Cortland, University of Nebraska, and Marquette University in Milwaukee, Wisconsin.

ALICE HO, PH.D.
Director, Academic and Research Programs,
Academic Advancement Program

Alice Ho (she/her/hers) is the Director of Academic and Research Programs in UCLA's Academic Advancement Program (AAP) where she oversees many programs, including the Ronald E. McNair Research Scholars Program, that support first-generation, low-income students of color as they prepare for graduate school. She also serves as the Curriculum Coordinator of UCLA's Freshmen and Transfer Summer Programs and leads AAP's research and evaluation efforts. She was a postdoctoral scholar at UCLA's Center for Educational Assessment where she worked on assessments of undergraduate curriculum, programs, and grant initiatives. She has extensive institutional research, consulting, and leadership experience. She earned her Ph.D. and M.A. in Education - Human Development and Psychology and her B.A. in Psychology with an Education minor, all from UCLA. She is a proud AAP alum who is committed to equity, diversity, inclusion, and access.

CONFERENCE PLANNING COMMITTEE

ALICE HO, *Chair*
Director, McNair Research Scholars Program,
Academic Advancement Program

ANTONIO SHALLOWHORN
Coordinator, McNair Research Scholars Program,
Academic Advancement Program

SANDRA BRUKARDT
McNair Research Scholars Program,
Academic Advancement Program

CHRISTIAN SPREITZER
Director, Undergraduate Education Information Technology

GINGER KAN
Programmer, Undergraduate Education Information Technology

ROBIN MIGDOL
Associate Director of Communications, Undergraduate Education

RAY CAMBEROS
Publications Coordinator, Undergraduate Education

DAVID MORA
Assistant Director, Industry Relations Career Center

UCLA McNair Conference

All conference programming to take place online via Zoom.
Please consult your email for meeting password.

TIME (PDT)	SCHEDULE

8:00 am – 8:45 am	**Welcome**
	Keynote Speaker
	  Dr. Tyrone C. Howard
	  Professor of Education
	  Pritzker Family Endowed Chair in Education to Strengthen Families
	  Director, Black Male Institute

9:00 am - 10:00 am	**Breakout Session 1 -** *Oral Presentations*
	  Anthropology, Gender and Ethnic Studies Panel A
	  Biology Panel B
	  Clinical Medicine, Dentistry and Public Health Panel C
	  Education Panel D
	  Psychology and Cognitive Science Panel E
	  Psychology and Cognitive Science Panel F
	  Psychology and Cognitive Science Panel G
	  Sociology and Public Affairs Panel H

10:00 am - 10:30 am	Break

10:30 am – 11:30 am	**Breakout Session 2 -** *Oral Presentations*
	  Biology Panel A
	  Communication, Economics and Geography Panel B
	  Education Panel C
	  Engineering Panel D
	  Math, Stats and Physics Panel E
	  Neuroscience Panel F
	  Psychology and Cognitive Science Panel G
	  Sociology and Public Affairs Panel H

11:45 am – 12:45 pm	**Breakout Session 3 -** *Oral Presentations*
	  Atmospheric and Environmental Science Panel A
	  Biology Panel B
	  Education Panel C
	  Engineering Panel D
	  Humanities Panel E
	  Psychology and Cognitive Science Panel F
	  Psychology and Cognitive Science Panel G
	  Sociology and Public Affairs Panel H

12:45 pm – 1:45 pm	Break

1:45 pm – 2:45 pm	**Breakout Session 4 -** *Oral Presentations*
	  Biology Panel A
	  Chemistry and Biochemistry Panel B
	  Education Panel C
	  Engineering Panel D
	  Humanities Panel E
	  Microbiology, Immunology, Molecular Genetics Panel F
	  Psychology and Cognitive Science Panel G
	  Psychology and Cognitive Science Panel H

	Workshop
	  Demystifying the GRE
	  Dr. Joseph Lamont Brown
		Stanford University

3:00 pm – 4:00 pm	**Breakout Session 5 -** *Oral Presentations*
	  Arts and Multimedia Panel A
	  Biology Panel B
	  Clinical Medicine, Dentistry, and Public Health Panel C
	  Math, Stats and Physics Panel D
	  Psychology and Cognitive Science Panel E
	  Psychology and Cognitive Science Panel F
	  Psychology and Cognitive Science Panel G

UCLA McNair Conference

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TIME (PDT)	SCHEDULE
8:00 am – 9:00 am	**Breakout Session 6 -** *Oral Presentations* *Arts and Multimedia Panel A* *Biology Panel B* *Chemistry and Biochemistry Panel C* *Clinical Medicine, Dentistry and Public Health Panel D* *Education Panel E* *Psychology and Cognitive Science Panel F* *Sociology and Public Affairs Panel G*
9:15 am - 10:15 am	**Breakout Session 7 -** *Poster Presentations* *Atmospheric and Environmental Science Poster Session A* *Biology Poster Session B* *Biology Poster Session C* *Engineering Poster Session D* *Psychology and Cognitive Science Poster Session E* *Psychology and Cognitive Science Poster Session F* *Sociology and Public Affairs Poster Session G*
10:15 – 10:45 am	**Break**
10:45 am – 11:45 am	**Breakout Session 8 -** *Oral Presentations* *Anthropology, Gender and Ethnic Studies Panel A* *Biology Panel B* *Communication, Economics and Geography Panel C* *Education Panel D* *Engineering Panel E* *Engineering Panel F* *Psychology and Cognitive Science Panel G* *Sociology and Public Affairs Panel H*
	Workshop ***Writing a Powerful Statement of Purpose Workshop*** Dr. Samuel H. Bersola | UCLA Graduate Division Dr. Susan L. Ettner | UCLA Graduate Division
12:00 pm – 1:00 pm	**Breakout Session 9 -** *Oral Presentations* *Anthropology, Gender and Ethnic Studies Panel A* *Biology Panel B* *Clinical Medicine, Dentistry and Public Health Panel C* *Engineering Panel D* *History Panel E* *Microbiology, Immunology, Molecular Genetics Panel F* *Psychology and Cognitive Science Panel G* *Sociology and Public Affairs Panel H*
1:00 pm – 2:00 pm	**Break**
2:00 pm – 3:00 pm	**Breakout Session 10 -** *Oral Presentations* *Arts and Multimedia Panel A* *Education Panel B* *Engineering Panel C* *Neuroscience Panel D* *Psychology and Cognitive Science Panel E* *Psychology and Cognitive Science Panel F* *Psychology and Cognitive Science Panel G*
3:00 pm – 4:00 pm	***Networking Hour Current UCLA Graduate Students*** ***McNair Directors and Staff Meeting***

DAY 3
SCHEDULE
FRIDAY, JULY 31

UCLA McNair Conference

All conference programming to take place online via Zoom.
Please consult your email for meeting password.

TIME (PDT)	SCHEDULE
8:00 am – 8:45 am	*Keynote Speaker* **Dr. Tracy Johnson** *Professor of Molecular, Cell and Developmental Biology* *Cecilia and Keith Terasaki Presidential Endowed Chair* *Howard Hughes Medical Institute Professor* *Chair and Director, Biomedical Research Minor* *Incoming Dean of Life Sciences*
9:00 am - 10:00 am	**Breakout Session 11 -** *Oral Presentations* *Anthropology, Gender and Ethnic Studies Panel A* *Biology Panel B* *Clinical Medicine, Dentistry and Public Health Panel C* *Communication, Economics and Geography Panel D* *Education Panel E* *Psychology and Cognitive Science Panel F* *Psychology and Cognitive Science Panel G* *Sociology and Public Affairs Panel H*
10:00 am - 10:30 am	Break
10:30 am – 11:30 am	**Breakout Session 12 -** *Poster Presentations* *Atmospheric and Environmental Science Poster Session A* *Biology Poster Session B* *Chemistry and Biochemistry Poster Session C* *Math, Stats and Physics Poster Session D* *Psychology and Cognitive Science Poster Session E* *Psychology and Cognitive Science Poster Session F*
	Workshop ***Financing Your Graduate Education*** Dr. Cherie Francis | UCLA Graduate Division
11:45 am – 12:45 pm	**Breakout Session 13 -** *Oral Presentations* *Anthropology, Gender and Ethnic Studies Panel A* *Arts and Multimedia Panel B* *Atmospheric and Environmental Science Panel C* *Biology Panel D* *Clinical Medicine, Dentistry and Public Health Panel E* *Psychology and Cognitive Science Panel F* *Psychology and Cognitive Science Panel G* *Sociology and Public Affairs Panel H*
12:45 pm – 1:45 pm	Break
1:45 pm – 2:45 pm	**Breakout Session 14 -** *Oral Presentations* *Chemistry and Biochemistry Panel A* *Education Panel B* *Engineering Panel C* *Humanities Panel D* *Math, Stats and Physics Panel E* *Psychology and Cognitive Science Panel F* *Sociology and Public Affairs Panel G*
2:45 pm – 3:00 pm	*Closing*

GRAD PREP
WORKSHOPS

DEMYSTIFYING THE GRE
Wednesday, July 29th | 1:45-2:45 PM PDT

This first step in crushing the GRE is hearing what those closest to the exam have to say about it. This workshop provides students with a strategic framework for GRE test preparation. The presenter will focus on an effective plan to prepare for the GRE, including how to manage test-related anxiety and promote your strongest performance, as well as how and when to use the strategies and techniques from coaching companies like Princeton Review, Kaplan, and others.

WRITING A POWERFUL STATEMENT OF PURPOSE
Thursday, July 30th | 10:45 am – 11:45 AM PDT

Workshop Description: The statement of purpose (SOP) is one of the most important aspects of your graduate school application. It tells the admission committee who you are, why you're applying, why you're a good candidate, and what you want to do in the future. Participants will learn how to write a strong statement of purpose for graduate school admission, as panelists will explain why successful college essays are not appropriate for admission into doctoral programs. Panelists will demonstrate their knowledge of and fit with the faculty and departments or schools to which they are applying; their maturity and purposefulness of their pursuit of academic and professional goals; and their understanding of the relevant research, methodologies, and tools for answering research questions in their field.

FINANCING YOUR GRADUATE EDUCATION
Friday, July 31st | 10:30 - 11:30 AM PDT

Workshop Description: Before you say yes to that student loan, attend this session to find out other ways to finance your graduate education. From fellowships to grants and everything in between, learn how to seek out funding opportunities to support your graduate education. This session will focus on the resources available to finance your graduate education. Special emphasis will be placed on campus-based and external fellowship support available as students advance in their graduate programs. Included in this workshop are ways in which students can effectively negotiate their financial awards and options available at the application stage of the graduate experience.
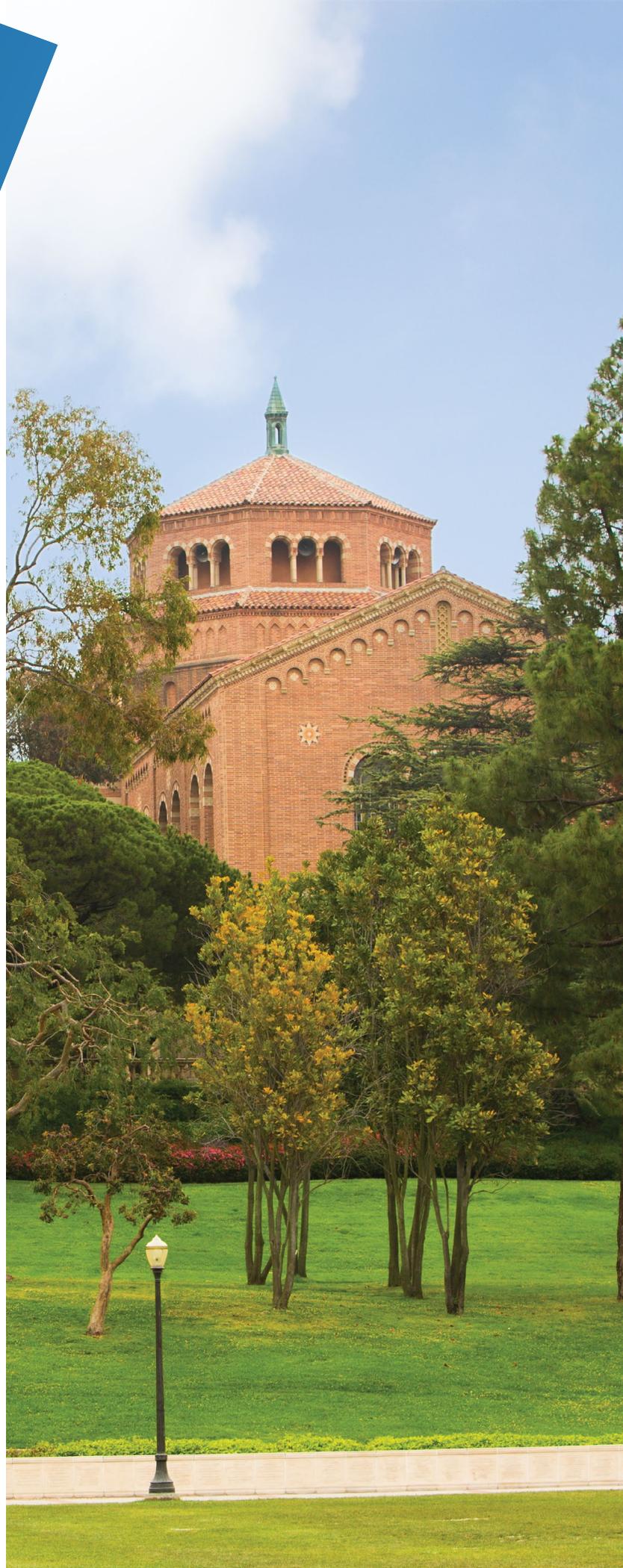
WORKSHOP
SPEAKERS

SAMUEL H. BERSOLA, PH.D.
Assistant Vice Provost, UCLA Graduate Division

Sam Bersola is a first-generation-to-college, Filipino-American from New London, CT. He has served as a higher education administrator for 30 years in a broad array of institution types--a community college, a liberal arts college, a maritime academy, and several master's and doctoral granting institutions. He earned a Ph.D. in education policy from Stanford, a master's degree in educational administration from Harvard and a bachelor's in civil engineering from UC Berkeley. He is a published researcher on the transitions from college to graduate school and from high school to college. He serves on the Board of Directors of the Asian Pacific Americans in Higher Education and has served on two California Governor-appointed education committees—the State Advisory Council on Early Learning and Care as well as the Committee on Awards for Innovation in Higher Education. He recently delivered a keynote address to a Women's Entrepreneurs Leadership Conference in Shanghai, China.

JOSEPH LAMONT BROWN, PH.D.
Associate Director of the Diversity and First-Gen Office,
Graduate and Undergraduate Studies, Stanford University

Joseph Brown earned his Ph.D. in psychology at Stanford University, where his research examined how stereotypes shape the intellectual identities and performances of women and minorities. He has for more than fifteen years worked on graduate student diversity recruitment for Stanford's School of Humanities and Sciences. And for the last 5 years he has provided diversity & inclusion workshops in Stanford's Diversity & First-Gen Office.

SUSAN L. ETTNER, PH.D.
Professor, UCLA Dept. of Medicine;
Professor, UCLA Dept. of Health Policy & Management;
Associate Dean, UCLA Graduate Division;
Incoming Interim Dean, UCLA Graduate Division

Susan Ettner is a first-generation college graduate. She obtained a dual B.A. in Mathematics/Economics and German from UC Santa Barbara in 1986, subsequently earning her Ph.D. in Economics at the Massachusetts Institute of Technology in 1991. She was on the Harvard faculty in the Department of Health Care Policy and was a recipient of Academy Health's New Investigator Award prior to joining UCLA in 1999. Dr. Ettner has over 200 peer-reviewed research publications. Her current research interests focus on mental health and substance abuse policy and services research; insurance markets; evaluation of natural experiments; and long-term care. Most recently, Dr. Ettner led a NIDA-funded evaluation of the impact of the federal Mental Health Parity and Addiction Equity Act on insurance coverage and treatment for mental health and substance abuse conditions and a related NIMH-funded methodology grant.

CHÉRIE FRANCIS, ED.D.
Coordinator, Fellowships Services, UCLA Graduate Division

Chérie Francis currently works in the Fellowships & Financial Services unit of UCLA's Graduate Division. Dr. Francis sees her 32-year career in higher education as having offered a series of opportunities to inform others about the benefits of an undergraduate and/or graduate education and about the added value brought to that education by the existence and nurturing of a diverse body of students, faculty, and staff. Dr. Francis earned her bachelor's degree in French at Middlebury College (VT), her master's degree in Teaching English to Speakers of Other Languages (TESOL) at the University of Pennsylvania, and her doctorate in Educational Leadership at UCLA.
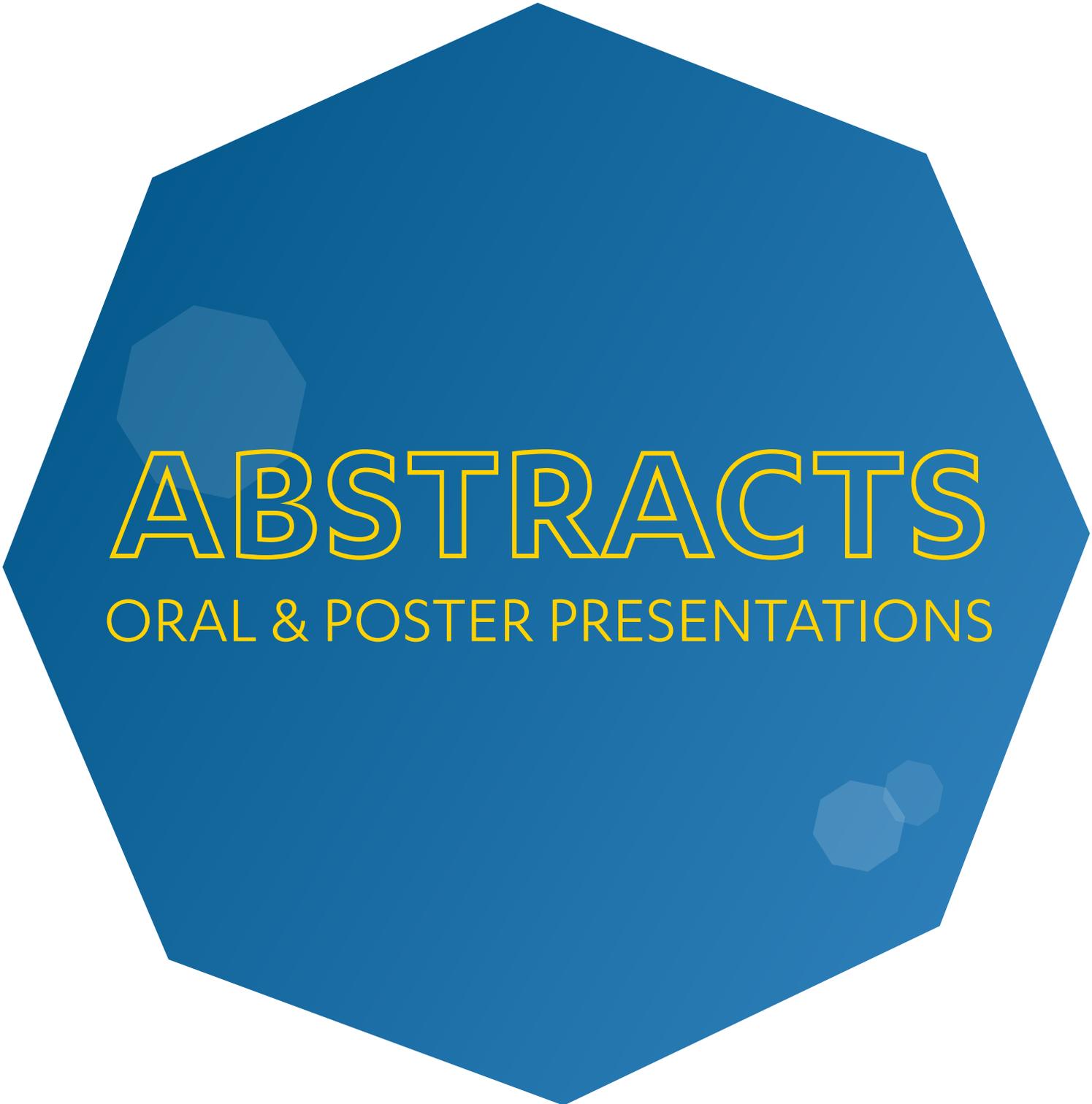
ABSTRACTS

ORAL & POSTER PRESENTATIONS

July 29, 2020 - 9:00 AM PDT Breakout 1: Anthropology, Gender and Ethnic Studies Panel A

ANASTASIE LENOIR
University of California, Davis
US and Mexico Response to 2018 Migrant Caravan

The options chosen by Central American migrants after hardline migration policies enacted in 2019 by the United States and Mexican governments is largely unexplored. Social, political and economic conditions in Central America contribute to the migration of people in the region seeking asylum in the United States. The fall 2018 migrant caravan claimed global attention, where previously this migration pattern went largely unseen. This study is conducted through research of online news articles, a video documentary database and current literature on United States/Mexico border relations. Mexico, due to heavy economic and political pressure from the United States, has delayed processing of documents and denied migrants the legal status to travel between states. Some migrants head north anyway, risking capture and deportation by the Mexican authorities and hoping to apply for asylum once they reach the northern border. At the United States border, migrants are confronted with narrow criteria that qualify migrants for obtaining asylum. The Migrant Protection Protocol/Remain in Mexico program has forced migrants to wait out their often lengthy asylum processes in Mexico. By prioritizing migrants voices, this study focuses on migrant testimonials to understand the effects of these new obstacles. This study focuses on the border of southern Mexico and Guatemala, where migrants usually enter Mexico and obtain legal migration documents and Tijuana, one of the main spaces occupied by migrant asylum seekers as they await their court hearings in the United States.

SARA MOYA
University of California, Los Angeles
Paqueterias: Transnationalism for Mexican Immigrants in Los Angeles

Paqueterias is the Spanish word for parcels. But in Mexican immigrant communities, paqueterias are personal courier services that transport goods from Mexico to the United States and vice versa. These courier services transport goods like chiles, homemade ceramics, and medicines through commercial airlines for Mexican migrants living in Los Angeles. Studies of transnationalism have focused on the visits migrants make to their home countries, often bringing gifts or social remittances which are ideas, norms, values, and practices (Itzigsohn, 1999; Levitt, 1998). These studies have focused on migrants who form familial, social, economic, and political relationships through their visits to their countries, leaving those who default this benchmark to remain absent. This shortcoming is addressed by analyzing the use of paqueterias by Mexican migrants living in Los Angeles, many of whom are undcoumented and unable to travel across borders effectively. Through exploratory case studies on two paqueterias, this project will attempt to understand the rise of these services. A series of interviews with paqueteria owners will be conducted to learn about the sending and receiving dynamics of paqueterias. It is hypothesized that paqueterias are central to shaping transnationalism for Mexican migrants who cannot travel as they enable cross-border movement for these migrants. In sum, this project illustrates the importance of shifting away from transnationalism as a clean trans-border movement of immigrants. It also offers an underexplored window into Mexican immigrants' transnational lives and into paqueterias that have facilitated transnationalism for Mexican immigrants.

JOCELYN RODRIGUEZ
Northeastern Illinois University

Exploring the Experiences of Families with Mixed-Immigration Status while living in the United States

There are 16.7 million people in the United States, with at least one family member without proper immigration authorization to live in this country. Families in these situations are known as Mixed Status Families. Mixed-status families face various forms of systematic oppression as well as disadvantages, causing these individuals and families to go undetected from law enforcement and live in constant fear of being separated and deported from their families. This study aims to uncover the perceptions, attitudes, and actions that Latino/a/x mixed-status families experience as well as the process of displacement and deculturization they undergo while residing in the U.S. To do so, we featured a qualitative study, in which interviews will be conducted on members of mixed-status families to shed light on their stories. The research focuses on the importance of migration, settling, and the achievements and limitations mixed-families experience due to (il)legality, in order to stop the criminalization, separation, and deportation of these individuals within mixed-status families while living within the United States. By this, the focus of navigating with mixed-status legality amplifies, portrays, and explains how it affects individuals and communities due to the structures of personal and societal successes and deterrence. Thus this will potentially shed continuous insight into how these families are part of communal, societal integration, establish diversity, are not a threat to society, and contribute to stimulating the U.S. economy.

July 29, 2020 - 9:00 AM PDT Breakout 1: Biology Panel B

CORY GRIEGO
University of New Mexico
Divergence in Behavior for Hatchling Year Coopers Hawks Accipiter cooperii

Coopers Hawks have extended their breeding range into urban environments increasing their presence at residential, industrial, and park locations. There is not much distinction between how hatchling year male and female Coopers Hawks are using their selected sites. This study will explore if there is a difference where young Accipiter cooperii are roosting and whether younger males are interesting in breeding during their hatchling year. Juvenile Coopers Hawks have been radio tagged to monitor activity and where they are located. Habitats will be observed and how these areas are being used whether it is for hunting, brooding, or both. The study area will be the northeast urban zone of Albuquerque, Bernalillo County, New Mexico.

STEPHANIE OLIVAS
University of New Mexico
Growth of sugar beets in urban agricultural soil

The current global industrial food system is one of the largest contributors to the climate crisis and is on the brink of collapse amidst today's global pandemic. Urban agriculture continues to grow in popularity and necessity but poses some barriers like soil quality and contamination. It important to understand which crops can grow safely and well in various soils. This research is monitoring the growth of Beta vulgaris in three different plots. Utilizing citizen science techniques, we have begun characterization of an urban agricultural site in Albuquerque, New Mexico. We are performing laboratory soil tests including pH, soluble salts (EC), total organic matter (LOI), and 24-hour CO_2 microbial respiration. Additionally, soil infiltration and compaction will be tested in-field and aggregate porosity assessments will be completed using modified water saturation method. We are monitoring germination and seedling development using ImageJ opensource processing software and once leaves reach a minimum area of 2 cm2, we will use a MultispeQ to monitor photosynthetic function and plant health. Lastly, a new plant impedance micro-probe system will monitor water potential data on mature leaves throughout the rest of the season. We hope to learn if the different soils will impact the growth physiology and water status of B. vulgaris.

JULIANNE SMITH
Westminster College
An Ecological Approach to Management of the Oriental Cockroach (Blatta orientalis) in an Urban Farm Environment

Primarily an outdoor species, the Oriental cockroach (Blatta orientalis) can be a pervasive pest on urban farms. Integrated Pest Management (IPM) requires species-specific knowledge in order to be successful; however, research on live-trapping control methodologies for cockroaches is minimal, since most trapping research focuses on extermination. We used field trials to develop an effective trapping method for the Oriental cockroach that met the following criteria: follows IPM guidelines, live-traps target species with minimal bycatch, is easy to use, and can be modified for high-capacity trapping and longevity of use. Four different trap types were studied on an urban farm in Salt Lake City, Utah. Traps were developed based on pitfall traps, which are designed for non-specific capture of ground-dwelling arthropods, then subsequently modified based on trap effectiveness. Individuals were collected, sorted by species, and cataloged. Effectiveness of trap types will be determined by comparing the average number of cockroaches per trap, per number of trap nights; bycatch by trap type will be compared in the same manner. Future directions of this study include utilizing the most ideal trap design to build a high-capacity trap that can be used long-term on urban farms, with the goal of using the Oriental cockroach as a dietary supplement for chickens and other farm livestock.

Abstract titles link to event detail pages.

July 29, 2020 - 9:00 AM PDT Breakout 1: Clinical Medicine, Dentistry and Public Health Panel C

XAVIERANA PARISI
Our Lady of the Lake University
Pragmatic Challenges in Independent Communicators Who Benefit from Augmentative and Alternative Communication

Augmentative and alternative communication (AAC) has allowed some individuals with complex communication needs and limited speech intelligibility to independently generate communication with communication partners. However, independent communicators remain challenged when attempting to establish social relationships with communication partners outside of their family and caretakers. Therefore, the aim of this study is to focus on the challenges independent communicators who benefit from AAC face when attempting to establish and build relationships, as well as reveal what strategies they use to overcome such challenges. The methodology will consist of a case study of an independent augmentative and alternative communication user who has completed an online questionnaire describing strategies used to develop social relationships, as well as whether the strategies were self-taught or learned through the therapy services of a professional, such as a speech-language pathologist. Future strategies that can be implemented in clinical practice to facilitate relationship building for those who are independent communicators and benefit from AAC are suggested.

VALERIA SAVAGE
University of Nevada, Reno
Knowledge of developmental milestones in culturally and ethnically diverse low-SES parents

A study conducted by Hart and Risley (1981) found that children of parents with high education and high socioeconomic status (SES) heard approximately 30 million more words by age five than children whose parents have low education and SES backgrounds. The study highlights the fact that children who grow up in backgrounds of low education and SES have lower cognitive and language skills compared to those in high educational and SES backgrounds. Research shows that children from low SES backgrounds have lower cognitive and language skills compared to white, middle class children; the brains of children from low-SES backgrounds have less surface area. Disparities between Autism Spectrum Disorder diagnoses prove that Caucasian children are diagnosed two years earlier than black and Latinx children. The root of this problem is unknown and can be the cause of multiple factors such as SES, level of education, or developmental milestone knowledge. The purpose of this study is to understand the knowledge that parents from low-SES backgrounds have about developmental milestones and how possible delays may impact children's language, cognition, and education. This study, which is still in progress, is a mixed method qualitative, quantitative design using surveys and interviews. The quantitative data will be analyzed with standard statistical methods. Standard qualitative analysis methods will be conducted for interview transcriptions. The interviews will be transcribed verbatim by main researchers and reliability will be established. Data should show patterns about parental knowledge of developmental milestones in relation to race, education level, and socioeconomic status.

LEILAH TOKMEHDASH
Our Lady of the Lake University

A Voice For All: Evaluating the Stroke Recovery Process for the Bilingual Spanish & English Speaking Individual

Strokes, also known as a cerebral vascular accident, are a major health risk today. They occur when a blood vessel to the brain is blocked, leading to a lack of oxygen to the brain. Strokes are extremely unpredictable, due to the fact there are very few warning signs leading up to one. Individuals that experience a stroke may encounter a different type of recovery process. Because of recovery diversity, it is crucial to look at this topic from different perspectives. A population that is important to look at is the Hispanic, Bilingual (English and Spanish) population. The lack of research on stroke recovery for the Hispanic population can lead many to feel as though they are unnoticed in the healthcare system. By examining available data through a systematic literature review, an effort can be made to see where there are gaps in research on stroke recovery for the Hispanic population, and what aspects of an individual's stroke recovery need research and awareness. By utilizing the mentioned strategy, we will be able to obtain a qualitative perspective of the available data on how individuals recover from strokes, and the different aspects of therapy needed. Researching the recovery aspects studied in current literature of speech, physical, and mental health will prove how relevant it is that these individuals receive therapies in both of their used languages. The goal is that findings from this research will provide information needed to implement the necessary health services for individuals to make a full recovery.

July 29, 2020 - 9:00 AM PDT Breakout 1: Education Panel D

SARAI MALDONADO
University of New Mexico
*Personal Journal Writing: A Tool for Pre-Service Teachers to Understand Emergent Bilinguals'
Literacy Development, Funds of Knowledge, and Community Cultural Wealth*

This study analyzed fourth and fifth grade emergent bilingual children's personal journal entries written in Spanish and English to gain insight to their funds of knowledge and community cultural wealth assets. These free-write journals were implemented as part of a teacher preparation program to provide preservice teachers (student teachers) with opportunities to view communities of color as sources of multiple strengths instead of as places of cultural poverty. In this paper, we narrow our focus on classroom sets of journals where fourth and fifth grade students wrote in two languages and shared their life stories. Preliminary findings indicate that the personal journal entries provided preservice teachers with insight to their children's language skills, funds of knowledge, cultural assets and the difficulties facing their communities and homes. The personal journal writing process also provided opportunities for preservice teachers to analyze what they could add to the curriculum to improve their students' language and literacy skills and how they could connect elements of their teaching to students' funds of knowledge.

MARIA JOSE NATAREN
Northeastern Illinois University
Exploring the Experience of English as a Second Language (ESL) Students in Higher Education

The population of English as a Second Language (ESL) students in the country has increased steadily in the past decades. ESL students in higher education may face institutional barriers related to their language and background that, in turn, influence their classroom participation and campus involvement. However, research documenting the experience of English as a Second Language (ESL) students at the college level is relatively limited. Most of the research on ESL students focus on primary and secondary education. This study's objective is to gather ESL students' perspectives as to what specific barriers they face in higher education and learn about the services and resources that help them succeed in college. To do so we feature two institutions that serve diverse students in an urban city in the Midwest. Our first case study is a private two-year institution with selective enrollment serving traditional students transitioning from high school into college. The second case study is a public institution with open admission and a more heterogeneous non-traditional student body. The investigation explores students' self-conception as ESL students, their academic and non-academic involvement within campus life, and their usage of institutional services. This research hopes to shed light on how ESL students experience higher education and document preferred practices helping ESL students thrive at the college level.

JAZMIN SALDANA
University of California, Los Angeles
*English-Learner and Non-English Learner Postsecondary School Enrollment Rates In Private High
Schools*

While English-as-a-Second-Language (ESL) programs were designed to facilitate linguistic development for emerging English Learners (EL students), there is growing research that has critiqued ESL programs for placing limitations on the academic trajectories of their public-school students (Núñez et al., 2016). Currently, there is minimal research that compares the impact of ESL programs in private high schools to that of their public-school counterparts. Although private schools are not required to provide ESL services, students in general fare better in standardized testing and produce higher postsecondary school enrollment rates compared to public schools (Hanna, 2017; Council for American Private Education, 2015, 2018). However, these outcomes may not apply to EL students in private schools. It is important to know if private school EL students have better support and more resources than their public-school peers. This project will examine higher education enrollment rates and pedagogical differences between five private and five public high schools in the City of Los Angeles. Data collection will consist of retrieving information from publicly accessible school websites and requested access to district archives. I hypothesize that EL students who attended private high schools will have greater postsecondary school enrollment rates if their experiences in private schools are comparable to those of their non-EL peers. As bi/multilingualism continues to rise and education remains a key source for social mobility, it is imperative ESL programs in a wide range of educational settings are further studied to alleviate academic disparities in college and to increase opportunities for a marginalized community.

Abstract titles link to event detail pages.

July 29, 2020 - 9:00 AM PDT Breakout 1: Psychology and Cognitive Science Panel E

JULIE CAMPBELL
University at Buffalo, SUNY
Ambient Temperature Effects on Reproduction in Siberian Hamsters

Elevated ambient temperature can negatively impact reproductive outcomes in human and non-human animals, an effect that is predicted to worsen with increasing global temperatures. Species adapted to cold environments, such as the Siberian hamster (Phodopus sungorus), are particularly sensitive to increases in temperature. In this study, we tested the hypothesis that small increases in ambient temperature would negatively impact reproductive output in Siberian hamsters. Due to the exquisite heat sensitivity of these hamsters, we predict that ambient temperatures above 23□ (just above room temperature) will reduce the probability of litters being born, decrease litter yield, and skew litter sex ratio toward females. To test these predictions, we will correlate reproductive outcome measures from colony breeding records (litter number, size, and sex ratio) with ambient temperature and humidity records of the colony housing units. The present experiment will determine whether the Siberian hamster is an ideal model for future studies examining the impact of increasing environmental temperatures on mammalian reproduction.

KYLIE FOSTER
California State University, Long Beach
Responses to ethanol in male and female rats

In 2018, 6.6% of adults reported heavy alcohol use within the past month (NIH). There is some evidence of sex differences in alcohol-related behavior in humans (HSDUH, 2014) and rats (Hilderbrand & Lasek, 2018). In this experiment, male (n = 17) and female (n = 14) rats were trained and tested in a brief-access lick procedure (10-s trials, 30-min sessions). This procedure allows for some segregation of the appetitive (here measured by number of trials) and consummatory (here measured by number of licks) components of behavior towards ethanol. Rats were presented 1, 2, 4, 8, 16, and 32% ethanol in randomized blocks over 5 sessions. Regardless of sex, rats decreased licks as EtOH concentration increased suggesting there is not a sex difference in the consummatory component of behavior towards ethanol. Rats could initiate as many trials as possible during each 30-min session. Males initiated more trials than females suggesting that higher ethanol intake in males than females is driven by the appetitive component of behavior (e.g. motivation) To assess the role of opioid signaling on reward-related responses to ethanol, 0.1 or 1.0 mg/kg naltrexone, an opioid receptor antagonist, or saline control was administered 30 minutes before each test session. Both males and females decreased trials as naltrexone dose increased. The higher dose of naltrexone decreased number of licks for males, but for but not females. Together, these findings suggest opioid signaling drives consummatory and appetitive behavior towards ethanol for males but primarily only the appetitive component of behavior for females.

ALLEA FRAZIER
University at Buffalo, SUNY
Amelioration of Cognitive Deficits in AD Mice via the Epigenetic Regulation of VGF

One of the major mechanisms of Alzheimer's disease (AD) is the alteration of gene expression. One of the top-ranking genes downregulated in the cortex of AD human postmortem tissues and AD mouse models is VGF, which encodes a nerve growth factor that has been implicated in synaptic function and neuroplasticity associated with learning, memory, depression and chronic pain. VGF can be increased by exercise via β-hydroxybutyrate, a ketone body that inhibits histone deacetylase (HDAC). The current study will investigate whether exercise-induced VGF acetylation and expression will decrease neurodegeneration and ameliorate cognitive impairment in AD models, such as the familial AD mice with high β-amyloid burden or mutant Tau transgenic mice. We will give pre-symptomatic AD models (4-5 months old) daily exercise for 1 month, and perform behavioral assays to examine their spatial memory, recognition memory and working memory. We will also examine the level of VGF mRNA and histone acetylation in AD models after exercise. Non-excised age-matched AD models will be used as controls. In addition, we will administer VGF-derived peptides to non-excised AD mice to determine its ability to ameliorate behavioral symptoms. These studies will provide an epigenetic mechanism to restore VGF transcription in AD mouse models, which offers a potential avenue to prevent cognitive decline.

Abstract titles link to event detail pages.

July 29, 2020 - 9:00 AM PDT Breakout 1: Psychology and Cognitive Science Panel F

CASSONDRA LYMAN
University at Buffalo, SUNY
Individual Differences in Engagement in Attributional Thinking in Cognitive Vulnerability to Depression

Depression is one of the most common mental disorders worldwide; as such, extensive research has investigated the role of various factors in the development and maintenance of depressive disorders. For example, numerous studies have investigated the role of attributional style (i.e. how one explains the causes of life events) in the etiology of depression. These studies have found that individuals vary in the degree to which they attribute life events to internal vs. external, stable vs. unstable, and global vs. specific causes. The internal/external dimension involves whether one believes events are caused by an internal feature of the self or factors outside the person. The stable/unstable dimension involves whether one believes the causes of events are enduring or temporary. Finally, the global/specific dimension involves whether one believes an event's causes affect many areas of life or a few. Individuals who make internal, stable, global attributions for negative events tend to experience longer lasting, and more severe, depressive episodes. In contrast, investigators have not examined the degree to which individuals engage in attributional thinking in their daily lives and whether this tendency moderates the relationship between attributional style and depression. This presentation: 1) explores the literature regarding attributional thinking and depression; and 2) proposes a three-month prospective study investigating how the frequency of attributional thinking relates to attributional style and depressive symptomatology. Discussion will cover the challenges encountered when designing this study and its predicted findings.

NINA CRUZ
Our Lady of the Lake University
Investigating the Relationship Between Mastery and Academic Success

There has been much research conducted on the effect that a student's perception of control has on their motivation and academic success. In general, the higher a student's level of perceived control, the higher their level of academic success. Personal mastery is a psychological concept typically conceptualized as a coping strategy. However, personal mastery, at its core, is about an individual's perceived amount of control over their own life. Because of its similarity to the topic of perceived control, the relationship between mastery and academic success is worthy of investigation. Therefore, the present investigation will be a correlational study to examine the relationship between mastery and academic success in undergraduate college students. The Pearlin Mastery Scale will be used to measure mastery and the Academic Success Inventory for College Students will be used to measure academic success. Given that past studies have found perceived control to be positively linked to academic success, the hypothesis of the current study is that mastery will be positively correlated with academic success. The results of this study will build upon the current understanding of academic success and possibly provide direction for freshman success classes in higher education.

ANDREA WHITE
University of Northern Colorado
How the Chameleon Effect Impacts Introverts and Extroverts in Social and Academic Settings

The chameleon effect is a phenomenon in which people unconsciously copy other people's behaviors, so they match the people around them in interactive settings. It is important for college students to know what type of personality they have and how that personality type is impacted by this phenomenon. The result of this knowledge can help them better understand their behavior in academic and social settings, which will make them more aware of said behaviors. This will help students be safer in these situations, as well as help them to stop the behavior faster. The chameleon effect and the personality traits of introversion and extroversion have been studied in previous literature in many ways separately, but not together in the manner this research has done. This study investigated how the chameleon effect may impact introverts and extroverts differently in social and academic settings, with the intention of finding who is more impacted by the phenomenon in these settings. The study used a survey with two parts: an introversion and extroversion scale and four stories; two about social settings and two about academic setting. The data analysis looked at the correlation between introversion/extroversion and the chameleon effect. The hypothesis was that in social settings, extroverts will be more impacted by the chameleon effect than introverts, and vice versa in academic settings. The data did show this pattern with stipulations. The hope is to expand this research to other populations, such as children.

Abstract titles link to event detail pages.

July 29, 2020 - 9:00 AM PDT Breakout 1: Psychology and Cognitive Science Panel G

JOCELYN HUERTA
University of California, Davis
Modulation of Auditory Capture by the Identity of Visual Priors

Research has shown that sounds can distract from visual tasks when they occur in a different location from a visual object, but they also facilitate visual search when they are spatially ambiguous or semantically consistent with the visual target object. However, it is not yet known how knowledge of a visual object's attentional priority influences processing of auditory stimuli during visual search. In the present study, we asked subjects to search for a visual target embedded on visual objects (ducks, frogs). We hypothesized that auditory sounds congruent with the more likely target object (quack, ribbit) would facilitate search, despite being completely task-irrelevant. We further predicted that congruent sounds would facilitate saccadic eye movements towards the visual target. Preliminary results are consistent and suggest that multi-sensory integration of real-world objects is automatic and attentional priority in one modality influences sensory processing of congruent information in another modality.

KATHERINE JAEGER
Siena Heights University
The Experiences of Adults Receiving EMDR Treatment for Past or Current Interpersonal Trauma

The prevalence of interpersonal trauma within our society is widespread and non-exclusive to a particular gender, sexual orientation, race, or ethnicity. The present study will focus on the effectiveness of Eye Movement Desensitization and Reprocessing therapy (EMDR), which is a psychotherapeutic technique used to help clients reduce the stress related to their trauma. Specifically, replacing negative cognitions created by the traumatic event by reprocessing traumatic memories in order to create new positive cognitions (EMDR Institute Inc, 2019). The goal of this study is to explore the experiences of EMDR treatment on the individual's social and emotional functioning. A single case study, using the bounded system of shared experiencing, specifically interpersonal trauma and EMDR treatment, will be used to obtain qualitative data. The target population is adults (age 18 years or older) that have already received or are currently receiving EMDR treatment. Semi-structured interviews will be conducted to obtain information about their experience with EMDR treatment. After the initial interview and transcription, a thematic analysis will be used to interpret the data using Erikson's stages of psychosocial development and Bowlby's attachment theory as the conceptual framework. Through the use of word mapping, using Dedoose software, the researcher will look for emergent themes within the interviews. Data collection for this study is currently in process.

SAIRA TARIQ
John Jay College of Criminal Justice
Types of Deception in Everyday Life: Detection and Frequency Mapping

Deception can occur with the motives to protect, harm, or even sway others This correlational research study aims to measure the frequency of deception in everyday life, classify the motivations of deceivers, and identify common targets of deception. This study will discuss previous research conducted on lies and deception, as well as their methods and results. Additional research is needed on deception, which commonly occurs in everyday life and is a fundamental aspect of society. For this study a total of 60 participants will be recruited from the John Jay College community. They will be required to journal their social interactions for a week and include any deceptive messages they convey to others. Participants will complete two questionnaires throughout the study. I hypothesize that participants will willingly deceive strangers more often than friends and that participants who deceive their friends will be part of the other-oriented category of deception than self-oriented.

Abstract titles link to event detail pages.

July 29, 2020 - 9:00 AM PDT Breakout 1: Sociology and Public Affairs Panel H

VANESSA FEARS
Our Lady of the Lake University
Social Variables: Predictors That Influence Utilization of Mental Health Services

The decision to seek out help for mental disorders is a complicated process that involves socio-demographic characteristics, culturally mediated interpretations of symptoms, availability of mental health services, as well as economic and socio-structural factors. (Crabb & Hunsley, 2006). This analysis examines demographic and socioeconomic determinants of the utilization of mental health services, including inpatient and outpatient. This study uses secondary data from the 2018 National Survey on Drug Use and Health (SAMHSA, 2020) to answer the following question: Do the variables—age, race, ethnicity, language, gender, marital status, geographical location, education, employment, income, and health insurance—predict the utilization of mental health services? The study population (N= 4,265) consists upon a national level (ages 18 and older) from civilians living in the United States who were non-institutionalized. The data was analyzed at the univariate, bivariate, and multivariate levels. Preliminary findings suggest a strong significance with income, employment, and marital status. However, the bivariate analysis displayed inverse associations with race, language, and education. The exploration of social variables that influence utilization of mental health services will contribute to the improvement of mental health practices, inform social policies, and help advance future research.

AMANDA ROSS
University of Wisconsin-Whitewater
Burnout Within the Social Work Profession in Wisconsin

The profession of social work consists of a large, diverse group of providers that may have varying job titles and roles in a wide variety of settings. Social Work, at its core, is a helping profession that seeks to support those most in need. However, that continuous support can have a personal and professional impact, which can be experienced as burnout. This exploratory mixed methods research project seeks to understand the experiences of social workers facing and/or recovering from burn-out. Participants (N=12) responded to a survey where they were asked to share both their understanding of professional burn-out along with their experiences with burn-out as a function of their professional role. Results suggested that the recognition of the signs and symptoms of burnout are learned over time, and that burnout can have a profound effect on the health and well-being of social workers.

JESSICA SALLER
University at Buffalo, SUNY
A Proposal for Investigating the Use of "To Have Depression" and "To Be Depressed" in Online Resources for Teens

The way that healthcare providers communicate with patients can have important impacts on their well-being, adherence to treatment recommendations, and ability to cope with their illness, which may be especially true in the case of mental health (Ong et al., 1995). Research has shown that patients make subtle distinctions in how they describe their mental health. In a study of adolescents, the phrase "I have depression" was used by patients to signal a concern that they had a pathological issue, while "I am depressed" indicated an impermanent emotional state in response to specific circumstances (Harvey, 2012). No similar analysis of healthcare provider language has been conducted, to my knowledge, to determine the extent that the structures "to have" and "to be" are used, nor how they may differ in meaning. The proposed study will analyze the language used by government agencies and health organizations in the United States in their informational pamphlets and web pages that target teens with symptoms of depression. I will specifically investigate the difference in frequency of the "to have" and "to be" structures cited above. Additionally, I will analyze the context and collocations in which these structures appear, following De La Ossa's (2019) work analyzing resources for survivors of domestic abuse. Finally, I will compare results to the patient language reported in Harvey (2012). This study will shed light on the differences in how patients and online resources use language to identify clinical depression.

July 29, 2020 - 10:30 AM PDT Breakout 2: Biology Panel A

CARLA-CRISTINA EDWARDS
Baylor University
Chemical Odor Effects of Ovipostioning in Aedes aegypti

Abiotic factors, such as water-vapor, hydration, or visual structure of the ovipostion site have a role in where mosquitoes lay eggs, however other research has shown that compounds from biotic organisms have a larger impact of rearing destinations for ovipositon sites. The behavior of the mosquitoes is believed to have a natural selection trend towards offspring fitness and creating a ovipostion site that is optimal with for larval density and has an optimal level for survival. For this research we will be looking at ovipostioning and how the behavior of scent has a large role and can affect where the mosquito species will ovipositon. Research has shown geosmin can affect mosquito behavior and mosquitoes have had some ovipostition preferences towards this chemical. This chemical can also be found in beetroot peels. Previous research has shown that different chemical environments can lead to different ovipostioning behaviors. In this experiment, it was tested to see if mosquitoes had a preference for beetroot, geosmin, oak leaf, or water when ovipostioning. The hypothesis was that geosmin, in pure concentration, would yield the highest amount of oviositioning eggs. Steady, but slightly different with this hypothesis so far, we have a trend on how oviposition is preferred with beetroots peels. Studying ovipostioning and how the mosquito behaviorial patterns is essential to understanding the global increasing incidences of dengue fever, the new emergences of Yellow Fever and the and of the Zika virus, which are all transmitted by Aedes aegypti and/or Aedes albopictus in the Western Hemisphere.

ALANAH FOLLIS
University of Maryland, Baltimore County
Review of Stress and Immunity in Drosophila

The purpose of this review and future research is to identify potential connections between stress and the immune responses. A number of studies with Drosophila and other insects have reported that a variety of physical stressors trigger immune responses, specifically increased expression of immune response genes in response to stress. This review seeks to summarize the current literature and explore the connection between physical stressors and immune responses, specifically the genetic basis of this connection in insect model systems. Given the genetic similarity of fruit flies to humans, this review will provide insight into stress and immunity in other organisms including humans. The review will highlight
directions of future research to understand the mechanisms underlying this connection and understand the contributions individual environmental stressors have on the immune system.

MELISSA LEON NORENA
Baylor University
Olfactory Detection of Antioxidants and Geosmin in Female Aedes aegypti and its Effect on Oviposition

The highly anthropophilic Aedes aegypti mosquito are the principal vectors of arthropod-borne viruses including dengue, yellow fever, chikungunya, and Zika and have become a burden to global health due to their rapid geographical distribution. A critical component for female mosquitoes to successfully detect oviposition sites is through the identification of volatile compounds that are present in natural and artificial water holding containers in which they establish as breeding sites. Recently, beetroot has shown to act as an affordable novel attractant due to the presence of geosmin and dietary antioxidants which can potentially mediate oviposition. In our lab, we investigate the behavioral responses of female Ae. aegypti to hydroxycinnamic acids (HCAs) and geosmin present in beetroot to understand the role of olfactory sensory detection of antioxidants and signals for microbial populations. We establish the preference with several trials of oviposition assays for beetroot over traditional attractants and demonstrate that female mosquitoes do respond to polyphenolic antioxidants that may be necessary for counteracting oxidative stress induced by consumption and infection of pathogenic microorganisms. Future work consists of measuring the behavioral response to ethyphenols, which comes directly from HCAs, to observe if the volatile can act as proxies for antioxidants and if mosquitoes are equipped with olfactory sensory to detect these dietary compounds. The goal of the research is to observe if females actively seek out antioxidants associated with microbial by-products in the effort of understanding the role of olfactory detection in oviposition while establishing beetroot as a cost-effective alternative for mosquito trapping.

Abstract titles link to event detail pages.

July 29, 2020 - 10:30 AM PDT Breakout 2: Communication, Economics and Geography Panel B

SIMRAN KAUR
University of California, Santa Barbara
Assessing Water Privatization in Metropolitan Manila

The popularization and widespread adoption of neoliberal policies in the late 20th century led to a sharp increase in the number of privatized water markets around the world. This project evaluates the effectiveness of privatized water markets on the basis of efficiency and equity. It uses the theory of supply and demand to model water markets under private and public ownership to better understand the benefits and drawbacks of each system. Furthermore, the project examines case studies of water privatization from around the world to study the effects of the privatized system. The popularization and widespread adoption of neoliberal policies in the late 20th century led to a sharp increase in water privatization around the world. Privatization continues to be widely promoted as an effective solution for addressing growing water scarcity in developing countries experiencing rapid urbanization and population growth; however, the shift to water privatization has yielded mixed results. My research focuses on evaluating water privatization as a means of improving water distribution in developing countries, and in this project, I use the region of Metropolitan Manila as a case study to model the effects of water privatization in developing areas. This project examines the effects of water privatization on the affordability and accessibility of water in Metropolitan Manila, and analyzes how the effects vary for groups of people with different socioeconomic characteristics. I intend to use the results of this case study to better understand the effectiveness of water privatization in developing countries, as a whole. The results of this case study will contribute to my larger research on understanding the effectiveness of water privatization in developing countries.

JAVIER SEGURA
Our Lady of the Lake University
Medicare for All: Analyzing Healthcare Expenditures in the U.S. Pre and Post Implementation of Medicare

The purpose of this research is to analyze the effects that the implementation of Medicare had on healthcare expenditures in the United States. Healthcare policy in the United States has been a topic of strong debate for decades now as healthcare expenditures continue to rise. Analyzing data of healthcare expenditures in the U.S. pre and post implementation of Medicare will offer great insight to potential outcomes for equivalent policy's. With the upcoming presidential election, many Americans are hoping to see a drastic change in the U.S. healthcare system such as the implementation of "Medicare for All". That being said, there are also many Americans that would not like to see the implementation of "Medicare for all". By analyzing the expenditure outcomes of those affected by Medicare, the results of this research are aimed to better inform Americans of the potential advantages/disadvantages associated with the application of policies similar to"Medicare for All".

JESSICA VALENCIA
California State University, Long Beach
Predatory Lending

Studies have shown that fringe providers which consist of check cashing services, credit unions, and supermarket lenders intentionally target minority and low-income communities and make access to traditional banking limited. These fringe providers are considered predatory lenders with high interest rates, leaving impoverished people in these communities with no other choice but to be highly susceptible to a cycle of debt. This study will compare the accessibility between traditional banking and fringe providers in these areas as well as compare interest rates between fringe providers and traditional banking. These comparisons will access traditional banking accessibility based on location and account requirements- identification requirements, high minimum balance, language barriers, etc.. In order to do so this study will specifically study the City of Long Beach and map out the locations. This study then looks into the demographics of these areas and discovers which populations are being affected the most. In doing so, this information will be made accessible to the public via HistoryPin.com in order to directly benefit those affected.

Abstract titles link to event detail pages.

July 29, 2020 - 10:30 AM PDT Breakout 2: Education Panel C

ALEXIS CORMIER
Southern Nazarene University
A Comparison Study on the Effectiveness of Three Different College Algebra Interventions for Underprepared Students at a Small Private Christian University

Literature suggests that the bulk of students that make up remedial college algebra classes are minority, low income, and first-generation college students. They leave underfunded high schools that lack the resources to help them succeed which leaves them underprepared for college level math. This places them in zero credit remedial or developmental math classes that aim to catch them up to their peers. These zero level classes do not count towards graduation which can lengthen the time and money spent getting their degree or discourage students from continuing their education altogether. Universities have taken a notice to this and have decided to offer a few different solutions like summer bridge programs, integrating supplemental instruction, peer mentoring, and tutoring. There have not been many studies that compare different types of remedial college algebra, and there have not been many studies that look at the effectiveness of the remedial class at a small private university. The proposed study fills that need as this study looks at three different versions of remedial college algebra that have taken place over 6 years at a small private Christian university.

ARLENA GAVINO
Stanislaus State University
Informing the Need of Critical Thinking in Mathematics

Based on the National Assessment of Educational Progress, it seems that the public education system in California is failing to provide students with essential problem solving and critical thinking skills in mathematics. Many studies have proven that students do not rationally think about mathematics word problems. Though, it comes to question that this issue may come from outdated and unrelatable terminology, or context of the problem. Using a modernized version of the "How Old is the Sheppard?" problem (which states "There are 125 sheep and 5 dogs in a flock. How old is the shepherd?") in schools in the Central Valley, this research evaluates if word choice and context plays a significant role in students' understanding of nonsensical mathematics word problems, if there is a difference in critical thinking skill as students progress throughout their educational career, and if there may be underlying factors that influence students' critical thinking. This information will help teachers, text book authors, and others invested in mathematics education, create better materials for students.

JOSE ORTIZ
Westminster College
Using Restorative Practices to Reduce Anxiety in the Secondary Math Classroom

There has been much research on the causes of math anxiety and possible interventions to help reduce it. There must be changes made to the way our math classes are structured if we hope to reduce the anxiety that students face when learning math. In many schools, restorative practices have become an appealing alternative for punitive discipline systems and as a basis for building community. By utilizing the restorative practice of community circles as a reflective tool for examining anxieties in math classes, there is hope that we might reduce the level of math anxiety that students currently face. By comparing the math anxiety levels, determined by the Abbreviated Math Anxiety Scale (AMAS), of a class of students who participate in community circles with a class of students who do not, the efficacy of using community circles to alleviate math anxiety can be determined.

July 29, 2020 - 10:30 AM PDT Breakout 2: Engineering Panel D

FANTAYSIA POLANCO
Florida International University
Pseudomonas Aeruginosa

Pseudomonas Aeruginosa is a pathogen (gram-negative) that can cause disease in plants, animals and chronic infections in the body. This pathogen has the ability to survive under various environmental conditions that is why it can infect multiple species. This bacterium is typically found in urinary tract infections and Paraplegic patients because stents and catheters create a buildup of bacteria if not sanitized properly. Pseudomonas aeruginosa can also cause infections in the lungs, blood, or parts of the body that has been operated on. This bacterium can cause body aches, fevers, chills, nausea and vomiting and decreased urination. In 2017, there were over 30,000 hospitalized and 2,700 deaths due to this bacterium. Through this research paper the researchers will analyze and contribute to the findings of P. Aeruginosa.

DAVID RAMIREZ
California State University, Long Beach
Influence of HTPB Variants on the Wettability of Ammonium Perchlorate

The sessile drop test is used to measure the static contact angle that commercial variants of HTPB make with polytetrafluorethylene and ammonium perchlorate solid substrates to determine if the molecular weight, OH-group content and viscosity properties affect wettability phenomena. Furthermore, the interfacial tensions for each of the three-phase systems of HTPB/AP are determined using analytical techniques. Results using image processing software show commercial variants of HTPB forming contact angles on AP ranging from 27.0 – 40.1°. The contact angle of HTPB on PTFE ranged from 86.0 – 88.0°. The surface tension of the polymers did not impact the magnitude of the contact angle significantly. The surface tension of all polymers except PolyBD R45 was constant. The wettability of AP varied greatly with which crystal face formed the liquid-solid interface. At the interface, the existence of hairline fractures on the crystal possibly affected the contact angle formed. Also, a firstorder measurement of the surface free energy of AP and calculation of liquid-solid interfacial energy is performed. Limitations of the measurement are discussed.

DIANE STONESTREET
University of Maryland, Baltimore County
Long-Term Effects of the Clean Air Act: Thermodynamic Modeling of Aerosols and Aerosol pH in Baltimore, Maryland

The Clean Air Act has had a significant impact on air quality since its formation in 1970; restrictions and regulations have led to an overall decrease in air pollution, such as SO2 and NOx. Aerosol pH as well as its effects on the environment are less well understood, therefore it may be helpful to understand the impact of decreasing air pollution on aerosol pH. The goal of this research is to correlate trends in SO2 and NOx with trends in aerosol pH in Baltimore, Maryland to determine how heavily the Clean Air Act has influenced aerosol pH over the last several decades. This will be done by compiling publicly available aerosol concentration data for Baltimore County from the Environmental Protection Agency Air Quality System and employing the use of the Extended Aerosol Inorganics Model (E-AIM) thermodynamic equilibrium model to estimate pH. Aerosol pH, as well as ambient particle concentrations will be measured on a biweekly basis over a period of 15-20 years so that pH data can be analyzed in relation to average biweekly SO2 and NOx concentrations.

Abstract titles link to event detail pages.

July 29, 2020 - 10:30 AM PDT Breakout 2: Math, Stats and Physics Panel E

JAZLANN BAREFIELD
Texas Tech University
High-mass X-ray binaries in the Small Magellanic Cloud: Photometric properties across the electromagnetic spectrum

The Small Magellanic Cloud (SMC), our second nearest low-metallicity star-forming galaxy, is well-known for its large number of high-mass X-ray binaries (HMXBs), i.e. compact objects (either neutron stars or black holes) accreting mass from a massive ($M \square \square 8M\square$) star companion. Closely examining young accreting binaries sheds insight on the formation and evolution of these systems, and thus in turn on the effects of massive stars on cosmic evolution. Throughout our work, we plan on investigating the multi-wavelength properties and variability of known young accreting binaries in the SMC with the aim to establish classification criteria for identifying new candidate HMXBs. We plan to use the 137 confirmed candidate HMXBs and 2,393 X-ray sources detected as part of the Chandra X-ray Visionary Program (XVP) of the SMC. We will supplement this data with the Hubble Catalog of Variables (HCV), which contains multi-epoch photometric data obtained with the Hubble Space Telescope. Cross correlation of these two catalogs will allow us to construct color-magnitude and color-color diagrams and derive light curves for most of the known accreting binaries of the SMC. In turn, using these multi-wavelength photometric properties, we will be able to identify new members of the HMXB class of objects. The derived multi-wavelength photometric and variability criteria from this work will be used to identify HMXBs in other more distant galactic environments. In this presentation, I will focus on demonstrating the power of color-magnitude and color-color diagrams constructed using the HCV catalog in identifying the multi-wavelength photometric properties of young accreting binaries.

BRANDON CORTEZ
University of Wisconsin-Madison
Spatial Fluctuations along Magnetic Field Lines due to ITG Turbulence

Thermonuclear fusion research seeks to harness a carbon free, plentiful energy source that could contribute to solving the energy crisis. Developing fusion energy requires controlling and manipulating plasmas, which as ionized gases with self generated electric and magnetic fields, are subject to an array of complex and difficult-to-control behaviors. Confining and heating plasmas to fusion temperatures makes them turbulent, a poorly understood dynamical plasma state that causes rapid losses of particles and heat, and therefore has been a major impediment to achieving fusion. The particular type of turbulence addressed here is caused by a gradient in the ion-temperature within a plasma and is the major contributor to turbulent losses in magnetically confined plasmas. This work seeks to better understand the spatial fluctuation characteristics of ion temperature gradient driven turbulence, specifically understanding how fluctuations extend along the magnetic field lines that provide plasma confinement. A set of five coupled partial differential equations is solved that describes how fluctuations are localized within a plasma by the spatial variation of the magnetic field and the free energy sources that drive instability. This set of equations is not amenable to analytic solution, hence a numerical technique is applied. The numerical technique is contained within a generalized code named PTSM3D, which is adapted by rewriting the code for the present problem. The solution will provide the scale of the fluctuations structure along the magnetic field and its dependence on plasma pressure. This will enable the interpretation of results from existing comprehensive simulations.

DRUE HOOD-MCFADDEN
University of Wisconsin-Madison
Magnetic Field Measurement Corrections for Double Probe and B-dot Design

Pulsed power and turbulence experiments conducted in the Big Red Ball at the Wisconsin Plasma Physics Laboratory present unique measurement challenges. When the double probe tips collect current, that current induces a magnetic field. With large fluctuations in plasma density, the fluctuation currents interfere with the B-dot coils. To properly adjust for this interference, the mutual inductance between the probe tips and the B-dot coils is calculated theoretically and measured experimentally. The induced EMF due to the additional magnetic field for a given current can then be subtracted from the total signal collected. The theoretical reasoning, methods, and results will be presented.

Abstract titles link to event detail pages.

July 29, 2020 - 10:30 AM PDT Breakout 2: Neuroscience Panel F

JUDIT HUERTA
University of New Mexico
Role of Anterior and Lateral Thalamus in Memory, Learning, and Spatial Navigation

The ability of the human brain to process spatial information and retrieve memories regarding the environment is crucial for human survival. The anterior and lateral thalamus are believed to play an important role in learning, memory, and spatial navigation. However, the functions of the anterior and lateral thalamus remain unclear. This study will examine the relative roles of anterior and lateral thalamus in spatial learning and memory by testing the hypothesis that while the anterior thalamus plays a critical role in guiding spatial behavior with reference to a cognitive map, the lateral thalamus plays a critical role in guiding spatial behavior in relation to the content in the environment. The subjects will be adult mice who will undergo stereotaxic surgery prior to behavioral training. The mice will be placed in a circular track within a testing room containing several distant cues located outside the maze that will remain in a fixed location throughout the experiment and will be trained to locomote in the circular track. Before each probe test, mice will receive infusions of saline or muscimol targeting the anterior thalamus or lateral thalamus. We expect the mice to use visual-tactile and/or distant cues to guide spatial behavior in the circular track.

TAMIJAH LAWTON-STONE
University at Buffalo, SUNY
Vasopressin's Arousal Effects in the Hindbrain: Does it Show an Inverted U-shaped Curve U-wish You Knew?

Neuropeptides have long been known to regulate complex behaviors and physiological processes (i.e. memory, learning, and growth). There are a number of neuropeptides in the brain, one of which is arginine vasopressin (AVP). AVP has been shown to impact several social behaviors (e.g. social play, social recognition, pair bonding, and aggression) and behavioral states (e.g. arousal). Recent findings suggest that vasopressin influences adolescent social behaviors through its actions on arousal; the neural pathways that mediate these actions, however, are not known. The present study tests the hypothesis that vasopressin regulates behavioral arousal through actions on the hindbrain. Juvenile male Long Evans rats will receive infusions of low, medium, and high doses of AVP directed toward the cerebral aqueduct, which delivers AVP to the hindbrain. Twenty minutes following AVP administration, behavioral arousal measures (locomotor activity in an open field) will be assessed. We predict that AVP infusions will dose-dependently increase open field activity, which will peak at the moderate dose. Increases in locomotor activity will then decline with administration of the highest dose, resulting in an inverted U-shaped dose-response curve characteristic of arousal mechanisms. Ongoing parallel experiments are assessing the impact of hindbrain vasopressin on juvenile social behaviors. Together, these studies will shed light on the mechanism by which vasopressin regulates social development and guide the development of AVP treatments for neurodevelopmental disorders such as autism spectrum disorders.

CHARLOTTE MULLINIKS
Westminster College
Applying Deep Learning to the Analysis of the Reproductive Behavior of Hirudo verbana and Macrobdella decora

Previous belief held that related species with analogous behaviors had neural circuits that were well conserved. However, research in sea slugs has shown that similar locomotive behaviors result from different circuitry between homologous neurons. To elucidate how a nervous system functions to create behavior, behavioral analysis is required. Traditionally this has been done with human observation. While this method has remained the standard of quantifying animal behavior it can be tedious. With technological advances platforms utilizing deep learning have granted researchers access to new methods for analysis. This research will compare the reproductive behaviors of the leech species Hirudo verbana and Macrobdella decora through annotated observation and with the deep learning tool DeepLabCut to reveal if the observed reproductive behavior is quantifiably the same between the two species and if DeepLabCut is a valid method of analysis for this behavior. As reproductive behaviors in leeches are instigated by the hormone hirudotocin, I will be injecting leeches with conopressin, a hirudotocin analog to induce fictive reproduction. I will then use the data obtained to compare the performance of DeepLabCut to human observation. I expect the types of behaviors, transitions, and durations to be the same for both species of leech. I also expect DeepLabCut to measure the reproductive behaviors with similar accuracy to human observation. This would refine the acquisition of ethological data by making it faster and more efficient. These findings would also show that DeepLabCut can be used for other ethologically relevant behaviors of the leech and other annelids.

Abstract titles link to event detail pages.

July 29, 2020 - 10:30 AM PDT Breakout 2: Psychology and Cognitive Science Panel G

BRITTANY HUDDLESTON
University of New Mexico
Childhood trauma impact on college students' well-being

How does childhood adversity affect college student's success in academic achievement and psychological well-being? In 1998, Felitti experimented with the adverse childhood experience (ACE) test, which analyzed childhood trauma (e.g. sexual/physical abuse, war, household dysfunction) and its potential long-term effects on adulthood diseases and early deaths. Notably, the ACE survey became a conventional method in the field of Psychology, Childhood Education, and Public Health. Furthermore, Felitti's experiment contributed to subsequent research focusing on understanding the impact of childhood trauma for predicting the onset adulthood diseases and early death. Currently, there is no research exists that specifically focuses on the effects of childhood trauma in college students' academic achievement and psychology well-being. The current study is grounded on the idea that psychological well-being is compromised by trauma while threats to psychological well-being may also attenuate academic achievement. Therefore, this study examines academic achievement and psychological well-being in traumatized and non-traumatized college students. A stratified random sample of 200 UNM undergraduate students will be recruited for this study. This study will assess subjects' childhood trauma, college academic achievement in addition to measures of self-efficacy as measured by the Self Efficacy for Learning Form (SELF; Zimmerman & Kitsantas, 2007), resilience as measured by the Brief Resilience Scale (BRS; Smith et al, 2008) , dispositional mindfulness as measured by the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006), subjective vitality as measured by the Subjective Vitality Scales (SVC; Ryan & Frederick, 1997), and self-compassion as measured by the Self-Compassion Scale (SCS; Neff, 2010).

YASMIN PARRIS
John Jay College of Criminal Justice
Resilience in the Many Faces of Adversity: Exploring Trauma in African American Adults in Economically Disadvantaged Communities

Previous literature supports that African Americans who reside in disadvantaged communities have higher rate of traumatic experiences than the general population. However, previous researchers have found that this population has resiliency which helps them to cope or overcome their trauma. One critique to this area of research is that it predominantly concentrates on youth, without understanding experiences of middle-aged adults and seniors. Thus, it is imperative to fill this gap in research in order to understand how, and if, trauma and resiliency occurs through age, while also identifying the types of trauma and resiliency older adults may experience. The purpose of my proposal is to examine the relationships between trauma and resilience for African American adults (ages 30 and up) who come from poverty-stricken communities. I will address two research questions: What are the different types of trauma experienced by this population? What factors of resiliency helps them to cope or overcome their trauma? I intend to use qualitative method design to address these two research questions. Semi-structed interviews with participants ranging from 30 to 70 years old, identified as African Americans who reside in impoverished communities. Thematic analysis will be used to examine data from the interviews, which will result in capturing major themes from the interviewees. The findings from this study will provide implications for clinicians and medical practitioners, including recommendations for how to structure mental health services for this population and how to better understand this population's exposure to trauma and the ways they develop resiliency.

EMILY VELASCO
John Jay College of Criminal Justice
Racial Trauma in Latinx Communities

There is ample evidence that affirms that the physical and psychological health of people of Color are affected by racism. Sociodemographic and phenotypic factors have been proposed to modify the relationship between racial trauma- defined as the severe reaction to a discriminatory experience- and health behaviors such as diet, physical activity, smoking, drinking, and age. Research on racism and its effects have not looked at the Latinx community thoroughly and do not account for phenotype, legal status, and socioeconomic status as possible moderators in the relationship between racism and health behaviors. Using the model of race-based traumatic stress, this study aims to understand the way social class affects the relationship between racial trauma and health behaviors among the Latinx community. Participants will complete the Race-Based Traumatic Stress Symptom Scale (RBTSSS), along with other measures of health behaviors, phenotype (e.g., hair texture, skin color), and demographics (e.g., social class). On the RBTSSS, the participant must report an encounter with racism that was negative or emotionally painful, sudden and uncontrollable. This scale will measure how participants felt immediately after a discriminatory encounter and how they feel now looking back at their experience. Understanding the role socioeconomic status and skin color have on the relationship between racial trauma and health behaviors will pave the way for future research and have clinical implications for how mental health professionals understand factors germane to racial trauma in Latinx communities.

July 29, 2020 - 10:30 AM PDT Breakout 2: Sociology and Public Affairs Panel H

SIBARIDIBO BANUNA
University at Buffalo, SUNY
Food insecurity among seniors and the effects of mobile produce markets on seniors' fruits and vegetable consumption

Food insecurity is a major issue in the United States, greatly affecting and impacting the lives of many individuals in low income communities and contributing to negative health outcomes. Seniors, especially those who reside in low-income neighborhoods that traditionally lack access to grocery stores, are at higher risk of food insecurity and malnutrition. One research-supported strategy to address food access issues in food insecure communities is the use of mobile markets. Mobile markets are vehicles that regularly travel to neighborhoods facing food access issues that sell fresh fruits and vegetables at a reduced cost, and typically accept nutritional assistance programs like SNAP, EBT, and WIC. This project will focus on lower-income seniors (50 years of age or older) and is best defined in four components: first, this project serves to understand the impacts and effects of mobile markets on seniors' fruits and vegetables consumption and perception of community food access; second, this paper will review and examine existing federal government food security programs focused on increasing fruit and vegetable consumption among seniors; third, it will identify the barriers or challenges associated with existing food security programs; and finally, this project, using qualitative interviews conducted with mobile market operators, will analyze how mobile market and incentive programs can be best designed to increase food access for lower-income seniors through evaluating data from active mobile market research projects at the University at Buffalo (the Veggie Van Study and the Senior Mobile Market Loyalty Program).

RAFIAT KIOKI
Kent State University
Eviction Rates and its Effects

This study is based on the existence of eviction rates. Housing inequality has been studied in many ways. One of the ways in which housing inequality manifests is through evictions. Studying evictions is important because this is a housing policy tool that disadvantages certain groups to the benefit of others, particularly along racial lines, and serves to further marginalize already vulnerable families. This brief will present findings from a systematic literature review where I analyzed past literature on this topic to understand the background of this issue. I proceeded to group my findings into different themes that occur overtime according to literature. Briefly, I find that African American women have been at a great disadvantage which later affects their kids and their educational backgrounds due to lack of stability. This issue also leads to systematic oppression which makes it difficult for families to encounter breakthrough. In addition, government assistance is not widely available to those who need it the most as they mostly lack the basic requirement to qualify which is usually lack of evictions in recent years. Housing inequality is not an issue that affects people only due to their actions, but one that affects those who are the most vulnerable in the society with no resources to help them. The goal in the future is to be able to transfer information from this study to understand housing inequality particularly eviction in Cleveland and Akron, Ohio to see how they differ from each other and why those differences occur.

Abstract titles link to event detail pages.

CASEY MONTOYA

University of Northern Colorado

Food and Housing Insecurtiy of College Students at the University of Northern Colorado

"Over the last decade, multiple studies of food insecurity among college students have found that food insecurity rates among college students to be from 20% to more than 50%, considerably higher than the 12% rate for the entire US population." (Freudenberg et al., 2019) Food and housing insecurity is a problem occurring on college campuses that have grown rapidly across the United States. In the current study, researchers were interested in experiences, factors, and attitudes of undergraduate students towards food and housing insecurity at a midsized university located in the Midwestern United States. Although food and housing insecurity is defined, it has been seen that students generally do not recognize the situations as such. Using a web-based questionnaire, a random selection of 28 undergraduate students at the participating university were asked questions regarding their experiences and attitude of food and housing insecurity situations. As an outcome, results revealed that: 41% of students identified as Hispanic/Latino, 29% of students identified as White/Caucasian, 15% identified as Black/African American, 9% identified as Multiracial, and 3% identified as/or American Indian/Alaskan Native or Asian American, have had experiences of food and housing insecurity at the university. Skipping meals to make groceries last longer and/or skipping meals to pay for bills are experiences that are commonly reported. Findings from this current study targeted and identified experiences and attitudes of food and housing insecurity within the midsized university. Furthermore, these qualitative results can be used for food and housing insecurity understanding and resource creation measures across colleges/universities.

Abstract titles link to event detail pages.

July 29, 2020 - 11:45 AM PDT Breakout 3: Atmospheric and Environmental Science Panel A

ALBERT LOPEZ-MARTINEZ
University of Nevada, Reno
Aquatic ecosystem effects of invasive macrophytes in Nevadan waters

To minimize the potential negative effects of invasive aquatic macrophytes (i.e. aquatic plants) on freshwater ecosystems, there is a need for understanding the effects that invasive macrophytes have on streams and canals in Nevada. Canals managed by the Bureau of Reclamation play a vital role in providing irrigation water for northern Nevada and this research will improve our understanding of how they function. This project aims to analyze how invasive aquatic macrophytes (IAMs) alter the carbon balance of flowing inland waters in Nevada. IAMs are harmful in waterways because of their impacts to recreation, navigation, and ecosystem dynamics. We hypothesize a greater density of IAMs will cause increased biogenic gas production due to the differences in sediment oxygen conditions and organic matter concentrations and decreased carbon dioxide emissions due to greater uptake by macrophytes in the canal. For this project we will first look at the different environments without any macrophytes and see the regular methane and carbon dioxide production from the Truckee Canal. Floating chambers, sediment sampling, porewater extraction, and headspace equilibration method will be performed to quantify various parameters along with amount of downstream dissolved gas flux and nutrients in the Truckee Canal. The results of this study will help further the understanding of invasive macrophytes in irrigation canals managed by the Bureau of Reclamation. This study will provide a well-thought-out methodology and summation of data collection stored on the Environmental Data Initiative website for easy access to other researchers.

SAMANTHA WOLF
University of New Mexico
Quantifying and Analyzing the relationship of Carbon Dioxide and Heat fluxes at Sulphur Springs, NM

Caldera-hosted hydrothermal systems sustain their heat and volatile budgets by the degassing of deeply stored magma. Caldera systems may thus contribute a significant, though poorly quantified, portion of the global budget of magmatic volatiles such as CO_2. Thermal anomalies may be detected before volcanic eruptions due to a shallow ascent of magma or the addition of hydrothermal fluids such as steam and CO_2 into subsurface structures of volcanic regions. It will be determined if high CO_2 flux areas coincide with high heat flux areas by deriving land-surface temperatures from Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) data and comparing that to accumulation chamber and thermocouple measurements of the soil. Thermocouple measurements 30 cm below the soil will be used to compare and validate the derived temperatures from the ASTER data. Accumulation chamber measurements are made to quantify the CO_2 flux of the study site. The heat, CO_2 and thermocouple measurements will all be spatially mapped to show where high fluxes and temperatures occur. I intend to find elevated temperatures where the highest CO_2 fluxes are measured. Understanding the mechanisms and rates of carbon and energy cycling will help us better understand both the long-term evolution of Earth's climate over geological timescales and how changes in thermal activity and diffuse degassing can indicate increased volcanic activity leading to hazardous eruptions.

WARSA ZEROME
University of Wisconsin-Madison
Vertical Motion Profiles Over Land Compared to Ocean

Convection and vertical motion in the atmosphere are important to understand weather and climate. The purpose of the research project is to study convection by examining vertical motion profiles over land in the Intertropical Convergence Zone (ITCZ). This is done using principal component analysis on reanalysis data from ERA-Interim to create vertical motion profiles displaying empirical orthogonal functions (EOFs). The ratio of EOFs with the two largest variances can be translated to a map showing vertical motion top-heaviness in the Tropics. Top-heaviness describes the location of where vertical motion peaks in the atmosphere. The future direction of the project is to compare profiles and maps over land to the ocean to determine the land-ocean relationship of vertical motion and why this relationship exists.

Abstract titles link to event detail pages.

July 29, 2020 - 11:45 AM PDT Breakout 3: Biology Panel B

BENJA DUFF
Kent State University
Immunosuppression In Relation To Exercise, Menstruation and Menopause

There is evidence to suggest that premenopausal women's bodies react differently to illnesses and infections over the course of their menstrual cycle. During the first phase of the menstrual cycle, the follicular phase, there are higher levels of antibodies present and there is an increased inflammatory response. During the middle of the cycle, the luteal phase, the immune system is suppressed and much less likely to produce an inflammatory response, thus making an individual more susceptible to infection and diseases. While many studies have looked at and compared these to phases of menstruation, there is a lack of research focusing on pre-menopausal vs post-menopausal women. Menopause is proven to increase cortisol levels within the body. This increase in cortisol can weaken the activity of the immune system by preventing proliferation of T-cells, rendering T-cells unresponsive and unable to produce the T-cell growth factor that fights off bacteria and orchestrates the immune response throughout the body. While menopause and menstruation may diminish immune competency, it is proven that regular bouts of moderate intensity exercise is beneficial for host immune defense particularly in older adults. This study aims to look at immunosuppression and how it relates to exercise volume and intensity among pre-menopausal vs post-menopausal women and women during their follicular vs. luteal phase of menstruation.

LUIS LEDEZMA
Texas Tech University
Role of BCAA Supplementation in Neuronal Health and Responses to Insulin

Research has revealed that high blood concentrations of certain amino acids, namely branched-chain amino acids (BCAAs; that is, valine, leucine, and isoleucine), have been found to be elevated in diseases such as diabetes, cardiovascular diseases, neurodegenerative disorders, and obesity. BCAAs, ultimately, are amino acids that cannot be synthesized in our body, thus dietary sources of protein are needed for the nutritional supplementation of these amino acids. Remarkably, BCAAs are noted for their role in muscle growth as it is publicly acknowledged to be beneficial in athletic nutritional supplementation. Curiously enough, BCAAs have also been found to be elevated in Alzheimer's disease (AD) patients as well as in transgenic mice predisposed to develop AD. Insulin, a peptide hormone, contributes to many of the functional activities of the brain such as cognition and memory. Alterations in the brain have been found to have clinical manifestations, such as type 2 diabetes mellitus and AD. Interestingly, evidence shows that BCAAs can lead to insulin resistance. It is thus reasonable to speculate that higher blood BCAAs can contribute to development of insulin resistance in the brain, contributing to the development of AD. The goal of my project is to assess how BCAA supplementation to neuronal cells can induce AD-like pathology, and to examine if it impairs the neuronal response to insulin. At the end of the study, we expect to have a better understanding on the role of BCAAs on neuronal health and its impact on neuronal insulin signaling.

BRITNEY MAPP
Texas Tech University
Analyzing Dnase1L3 to examine its structure and ability to regulate inflammation in Systemic Lupus Erythematosus (SLE)

Autoimmune disorders are one of the top ten leading causes of death in women in the United States, specifically Hispanic and African American women. Systemic Lupus Erythematosus (SLE) is an autoimmune disorder characterized by inflammation that damages the vital organs, skin, and joints. In SLE, inflammation leads to production of auto-antibodies that target the patient's own DNA, forming immune complexes that cause organ damage. Inflammation is prevented by destruction of DNA in dead cells by Dnase1L3. Dnase1L3 is an enzyme that is able to act intracellularly and shred the inactive DNA, therefore preventing inflammatory flare ups. Dnase1L3 deficiency leads to pediatric-onset SLE, starting at a median age of 6 but is also seen in adult-onset SLE. Replenishment of Dnase1L3 levels is one potential treatment for SLE because it will destroy DNA in dead cells and immune complexes, thereby preventing autoimmunity. To improve serum half-life, the size of Dnase1L3 can be increased by adding the inert, bulky molecule polyethyleneglycol (PEG) to Dnase1L3, potentially at the cost of Dnase1L3 activity. The next step is to achieve a highly purified, PEGylated protein that still has good activity. If we are able to accomplish making a pure, PEGylated, and active form of Dnase1L3 that means we can move forward with testing its efficiency as a treatment for SLE and therefore potentially saving many SLE patients' lives.

Abstract titles link to event detail pages.

July 29, 2020 - 11:45 AM PDT Breakout 3: Education Panel C

LAUREN HARVEY
University of Nevada, Reno
Replenishing the Educational Knapsack for Students Affected by Undocumented Immigration:
Exploring Institutional Barriers and Resources to College Success

Each year, an estimated 65,000 undocumented students graduate from high schools across the United States (Passel, 2003). However, the likelihood that these graduates will continue into higher education is dismal. This study examines institutional barriers and currently available resources that impact college success and retention for undocumented students (US) and students with undocumented parents (SUP) in Nevada. Research has shown that there are three main areas to consider regarding college and educational success for these students: financial, social, and cultural. Drawing on key aspects of social capital theory, this study seeks to (a) identify gaps in resources and the needs of these students (b) reveal available resources for supporting US and SUP and (c) outline the obstacles associated with obtaining such resources. Additionally, it seeks to employ a feminist analysis that is attentive to how financial, social, and cultural systems are also informed by gender, class, race, and other identity markers. This study will be conducted through surveys and interviews with three key stakeholders: undocumented students, students with undocumented parents, and institutional brokers, defined as individuals employed at institutions of higher education who are tasked with serving students impacted by undocumented immigration. This research seeks to elevate the voices of undocumented students and students with undocumented parents alike, as well as provide critical information on how institutions can better serve these students.

SHEARRYDNISE ROSA
University of Wisconsin-Whitewater
The Power of Educational Experiences & Interactions

ED100 notes that "each year consists of about 6,000 waking hours. Children in America, on average, spend about 1,000 of them in school, not including after-school programs." thus leading us to question all the things a student experiences amounts these hours. This study proposes to investigate potential common threads between students, particularly those of color, past and present experiences/interactions, and the repercussions that those may have on a student's educational success and/or outlook on higher education. This study carried out 10 in-depth interviews with undergraduate students of color, who were also in an academic achievement program to see the influence that both negative and positive educational experiences could have on each given student.

ELIZANDRA SANDOVAL
University of Wisconsin-Madison
Continuando El Esfuerzo: A Psychosociocultural Exploration of First-Generation Mexican-American
College Students at Predominantly White Institutions

With a growing number of Latinx students in higher education, this study examines how first-generation Latinx college students experience a sense of belonging at predominantly White institutions. Using the Psychosociocultural (PSC) Model (Gloria & Rodriguez, 2002; Castellanos & Gloria, 2007) to assess students' educational experiences, this study discusses resilience, familismo, and ethnic identity as domains contributing to the Latinx college student experience. The study intentionally highlights Mexican-American culture, generational status, and the institutional context to address current gaps in literature. This study uses a PSC approach and Latino Critical Race Theory (LatCrit), to highlight the experiences of Latinx students in higher education. LatCrit helps expose institutional practices perpetuating oppression against Latinx students (Villalpando, 2004). Thus, this study will recount the narratives of sophomore and junior undergraduate Mexican-Americans students. Using a semi-structured interview protocol, participants are asked a series of questions, informed by the PSC Model and Latino Critical Race Theory (LatCrit). The study hopes to highlight first-generation Mexican-American college campus experiences and in turn, highlight their impact on-campus involvement and academic persistence. The anticipated findings are used to uncover new perspectives for cultural enrichment in educational settings. Implications and future directions are discussed for educators, administration leaders, and policymakers interested in the well-being of Latinx students in higher education.

Abstract titles link to event detail pages.

July 29, 2020 - 11:45 AM PDT Breakout 3: Engineering Panel D

TIERRA FOLEY
Baylor University
Classifying Diminutive Polyps by Convolutional Neural Networks

Though colorectal cancer is the one most preventable forms of cancer, the Center for Disease Control estimates that it accounts for 50,000 American deaths per year, making it the third leading cause of cancer-related deaths in the United States. Colon cancer is classified by its stages beginning with Stage 0 and climaxing at Stage IV. In its earliest stages, colon cancer treatment is most effective, highlighting the importance of screenings. Screenings, such as colonoscopies detect precancerous polyps, abnormal growths that form in the colon or rectum. However, these procedures are quite costly, ranging from $2,000-4,000 for uninsured patients. To reduce costs and increase the efficiency of the procedure, Dr. Keith Schubert's lab and Dr. Themistocles Dassopolous of Baylor Scott and White Health are using machine learning to detect diminutive polyps (<5mm) and identify potentially cancerous adenomatous polyps from harmless hyperplastic polyps. Adenomatous polyps should be resected and the frequency of screening exams must be higher.   Accurately distinguishing (>90% accuracy) between harmless hyperplastic polyps and adenomatous polyps that possess characteristics of advanced neoplasia would remove the need for a pathologist to biopsy the polyp thus significantly reducing the cost and increasing the availability of the procedure while maintaining the procedure's integrity. One potential solution to this issue has been to use a convolutional neural network (CNNs), via Matlab, to train a machine to differentiate images taken during a colonoscopy to identify harmless polyps and those that need to be resected. Results are pending the conclusion of the experiment.

ALEXANDRO LOPEZ
University of California, Davis
Surveying Powder Properties Affecting Agglomeration for Intratracheal Insufflation of Anti-fungal Medication

Dry powder is an employed method of drug delivery in the treatment of respiratory diseases. This route of delivery is heavily dependent on both macro- and micro-level design—specifically the design of the device and the formulation of the particulate. These design factors affect proper deposition of the medication into the desired location— in our case the pulmonary parenchyma of avian patients. Currently, our lab—the Delplanque Research Group in collaboration with Prof. Lisa Tell's laboratory—has developed a series of dry powder insufflator (DPI) devices for intratracheal delivery of dry powder amphotericin B for the prophylactic treatment of aspergillosis in birds. Although macro level design alterations have resulted in more promising results, our advances are limited by the chemical properties of amphotericin B that result in agglomeration, causing a disruption in flow in our device. As a result of these properties, our device is unable to bilaterally distribute the medication to the avian respiratory tract, an essential component of properly treating aspergillosis. To better address this limiting factor our laboratory has surveyed particulate properties of the dry powders involved in our experimentation, which include: liposomal amphotericin B, fluorescein and voriconazole. We hypothesize that by investigating the chemical properties that influence agglomeration—hygroscopicity, crystallinity and polymorphism, particle size, distribution and shape— we may be able to reduce agglomeration, hence, improving flow of the dry powder and overall distribution of the medication.

Abstract titles link to event detail pages.

ADAN REDWINE
University of Nebraska–Lincoln
Development of a Physiologically Relevant Model of Sensory Nerve Growth to Screen Pain Therapeutics

One of the leading causes of disability around the world is low back pain (LBP). A key contributor to LBP is the degeneration of the intervertebral disc. As the disc degenerates, pain-sensing neurons (nociceptors) from the dorsal root ganglion (DRG) grow further into the disc and can be activated, evoking the sensation of pain. Pain from the degenerated disc is known as discogenic pain. To date, there are a variety of in vitro culture methods used as models to study discogenic pain and recapitulate this occurrence. The majority of which fail to accurately represent the anatomical relationships present in a painful degenerated disc and subsequently, induce changes within the DRG that alter cell morphology, proliferation and differentiation, and survival. To develop an effective treatment to alleviate discogenic pain, it is essential that DRG in vitro culture methods mimic the in vivo environment as closely as possible. By researching current methods that more closely represent the in vivo environment and the anatomical features of the DRG itself, a culture device with multiple compartments for separate cell body and axon chambers has been proposed. Future directions include the testing and optimization of both the fabrication of the device and the growth of DRG within.

July 29, 2020 - 11:45 AM PDT Breakout 3: Humanities Panel E

ISRAA ABBAS
Northeastern Illinois University
The Impact of Digital Humanities in Cataloging Sudanese Digital Poetics

Many Sudanese citizens have left Sudan because dictatorship oppression curtailed their freedom of speech. Nevertheless, the Sudanese community expresses their radical free speech using poetry. This historically significant mode became an important element of the 2019 revolution.
Scholars argue that lyric poetry is a form of freedom, an escape for writers, and a form of engagement with social/political issues. For that reason investigators point to how the Sudanese community circumvents the issue of lack of freedom of speech with poetry. Unfortunately, Sudanese literature is not well represented in libraries located in America compared to Eurocentric poetry. At the same time scholars suggest that the merge of humanities and technology into digital humanities help us understand digital culture. Through this discipline we see how online activists have developed software that uses concrete and haiku poetry to reconfigure and improve free speech. This research identifies the importance of the expansion of awareness of Sudanese poetry in a digital form and how this elevates awareness of freedom of speech needed in Sudan. I will use a qualitative analysis to catalog Sudanese poets and their work through a collaboratively developed website creating a Sudanese Poetics Archives. This type of cataloging is crucial to diversify the libraries in America and bring awareness to Sudanese literature and social issues. By creating this archive and these collaborations, I hope to continue to raise awareness about suppression of freedom of speech in Sudan and to encourage engagement with other poets with Sudanese poetry, both in Sudan and abroad.

KATRINA GALLEGOS
University of New Mexico
Perception of Origin: A Folk Music Study

People create cultural identity through a variety of methods, one of them is music. This study asks the following research questions. How do cultural and ethnic identities diverge despite sharing cultural resources? How does folk music reveal an ethnic divide between New Mexicans and Mexicans? In the early twentieth century the United States Senate Committee on Territories barred New Mexico from becoming a state because its denizens were too unalike in culture, which included language, from the rest of the union. Over time the border between New Mexico and Mexico has lost its fluidity and hardened. There is now a perceived hard divide between the two countries. This divide necessarily affects all aspects of culture from language to music. Studies in Sociolinguistics (Alfaraz 2002) have shown that ethnically and culturally related people have differing perceptions on shared language dialect based on race and length of time in the United States. Additional studies (Bills & Vigil 2008) have documented that New Mexicans maintain a dialect of Spanish that is unique to its geographical location. This study will use qualitative methods such as, semi-guided interviews and map labeling. A goal of this research is to distill how New Mexicans and Mexicans create part of their cultural and ethnic identities through folk music.

CAROLINA RAMIREZ MORENO
University of California, Santa Barbara
Notions of Latinidad and the Artistic Career of Jennifer Lopez, "La Diva del Bronx": Approaches and Challenges

This presentation analyzes mega star Jennifer Lopez as a symbol that defines and represents Latinidad or the "Latin look" in the popular culture of the United States. Such concepts, Latinidad and the "Latin look" marginalize women who might consider themselves Latinas but do not identify with the physical characteristics constructed by society, which Lopez is often associated with. This leads to the question: If cultural stereotypes present women identified as Latinas with a series of alleged attributes ranging from the "sacrificed/subjugated mother" to the "hot sexy mama," how should we understand the impact of Jennifer Lopez in the collective and cultural imaginary of the United States? To have a clear understanding of Lopez's impacts on popular culture, I consider her most recent participation in the Super Bowl LIV's halftime show and the analysis of the covers of the Latina magazine in which she appears from 1996 to 2012. This research collects information from magazine archives, peer-reviewed articles, recorded interviews, online, and recent news articles. This presentation contrasts the hypersexualization of Lopez's artistic trajectory and body with bell hooks' notion of the oppositional gaze, which inquires the power of the gaze regarding the representation of Black women, and in this case, women of color in the media. There is a discussion of how relevant the gaze is to consider when analyzing and understanding Lopez's concurrent trajectory and the influence that she could have in popular culture.

Abstract titles link to event detail pages.

July 29, 2020 - 11:45 AM PDT Breakout 3: Psychology and Cognitive Science Panel F

LAURA FILERIO
Our Lady of the Lake University
Partner Violence Intervention: A Second Chance for Perpetrators?

According to World Health Organization (Krug & Weltgesundheitsorganisation, 2002), violence is defined as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation" (p. 5). Existing literature on intimate partner violence focuses heavily on victims and sometimes overlooking perpetrators and the factors in their lives that contribute to violence, such as a history of direct or indirect childhood abuse (Gelles, 1998). In doing so, the cycle of violence is likely to repeat because perpetrators generally receive jail time and probation rather than violence prevention intervention which teaches non-violent behaviors and responsibility for one's actions. Eckhardt, Murphy, Whitsker, Sprunger, Dykstra and Woodard (2013) analyzed 20 different studies to determine treatment effectiveness in regard to Intimate Partner Violence (IPV) (Eckhardt et al., 2013). Olver, Lewis and Wong (2013) also conducted research to explore recidivism rates based on treatment outcomes in IPV (Olver et al., 2013). Both these studies show the decrease of IPV based on treatment completion. Because perpetrator intervention research is lacking, the proposed investigation will explore the effects of a community-based violence intervention treatment program. In addition, this research study will use the Hamby questionnaire to compare pretreatment and posttreatment effectiveness and cognitive-behavioral differences in perpetrators. SPSS will be used to analyze such results. Based on previous literature, it is hypothesized that perpetrators will show a decrease of IPV overall.

SUNDESH LATCHMAN
John Jay College of Criminal Justice
The Adult Male Survivor of Childhood Sexual Abuse

Childhood Sexual Abuse (CSA) is an issue that exists around the world impacting all genders that is receiving increased attention in the current cultural climate. Moreover, the foundations of the existing literature has a disproportionate amount of research that is geared towards treating the long term sequelae of the female survivors of CSA. Research has also found that gender roles play a part in the disclosure and recovery of survivors' memories. Male survivors face a higher rate of stigmatization, and as a result, are less likely to seek treatment. The current study aims to gain understanding into the psycho-emotional aspects of CSA in males by collecting data from survivors through online forums and open floor discussions. This approach can reduce stigma and places the survivors in control of their disclosure of trauma. The current research is an exploratory study of utilizing the data collected from male survivors from various settings including in religious institutions and sport groups.

MELISSA CEREN
John Jay College of Criminal Justice
The Impact of Matter of A-B- on Asylum Claims due to Domestic and Gang Violence

The Refugee Act of 1980 states that individuals who have experienced inhumanity and torture may seek asylum in another country if they can demonstrate a well-founded fear of persecution due to race, religion, nationality, political opinion or membership in a particular social group. The strict criteria regarding the cause of the persecution make asylum difficult to obtain for victims of domestic or gang violence. In specific cases, victims of domestic or gang violence have been granted asylum in the United States under the criteria of membership in a social group. After a successful appeal in the Matter of A-R-C-G- (2014), a woman received asylum in the United States after repeated emotional, psychological and physical abuse from her husband in El Salvador. However, this verdict was overturned by former Attorney General Jefferson Sessions in Matter of A-B- (2018). The proposed study will utilize Google Scholar and LexisNexis to systematically review the relevant legal and psychological literature in order to discuss how does former U.S. Attorney General Jeff Sessions' implementation of Matter of A-B in asylum regulation affect the grant and denial rate for victims seeking asylum or other forms of relief from removal due to domestic or gang-based violence. Implications among the asylum outcomes will discuss the origin of asylum policy, specific criteria of persecution and the impact of the recent ruling.

Abstract titles link to event detail pages.

July 29, 2020 - 11:45 AM PDT Breakout 3: Psychology and Cognitive Science Panel G

AYUNI KELTON
University of California, Los Angeles
The Male Gaze in the Work Place: The Color Red and Men's Perception of Woman's Attractiveness and Intelligence

Elliot and Maiar have stated that the color red facilitates approach and avoidance motivated behaviors depending on context (2012). Approach behaviors are seen through the biological perspective in the reddening of faces during ovulation and then ingrained socially with associations of red and romance. Avoidance behaviors are biologically displayed in red faces when expressing anger and red is socially conditioned as a sign of danger. This study examines red in the workplace, which is a context where one's abilities and one's appearance are evaluated and could promote avoidance related behaviors and approach related behaviors. This study intends to question if the color red affects heterosexual male participant's perceptions of a female's attractiveness, measured by sexual intent, and intelligence, measured by hirability, in the work place. Research of this kind has value as women make up a larger percent of the workforce than men, yet hold a disproportionately small number of positions in upper management and are paid less than men. This study hypothesizes that men will present avoidance behaviors in the response to intelligence and approach behaviors in the response to attraction when viewing women in the workplace. This study used an experimental between-subjects design where subjects participated in evaluating a female's intelligence and attraction in one of three color conditions by completing an online survey.

EMANUEL ROJAS
Florida International University
Group Identity Affecting Creative Performance in the Workplace through Intrinsic Motivation Presentation

Creativity at work is defined as producing useful and novel ideas that concern the individual's workplace. Both usefulness and novelty are required components for an idea to be considered creative. For example, civil engineers proposing unique designs for machines that decrease the workload for humans. Research suggests that motivational factors affect creativity in the workplace. The motivational approach suggests intrinsic motivation, influenced by an individual's innate desire and involvement, increases the worker's creativity on a specific task. Group identity defines an individual's sense of belonging in a specific group. The objective is to test a mediational model between group identity and creativity, with intrinsic motivation as the mediator. The study would assign participants into two conditions where the experimental condition primes the individuals to recall feeling a sense of group identity while the control condition asks to recall a time of spending time with their family.

ROUAN SALIM
Wayne State University
Applicant Faking: Examining Response Distortion Literature and Conducting Analyses of Employee Referral Responses Using a Covariance Index

Although previous research has examined faking (i.e., response distortion) within self-report personality assessments in high-stakes settings (e.g., applicant hiring), little research has examined whether employee referral ratings are faked, which can provide insight about applicant hireability. This study examines literature that helps to provide a clear understanding of the factors that contribute to employee referral faking in order to ultimately develop a scoring algorithm for a covariance index (CVI) that detects faking within employee referrals. The development of this algorithm will allow employers to identify the distortion of employee referrals. Data collection in this study is accumulated through an online survey and administered to employed undergraduate students. The experimental faking study instructs a faking condition group of respondents to provide referrals as if an acquaintance had used them as a reference, and the honest condition group is instructed to respond as honestly as possible when completing referrals. CVI scores are expected to be higher in the faking condition, and CVI scores should be capable of predicting which condition respondents belonged in. This study should result in a measure capable of capturing faking-related variance in the form of a CVI that can be produced for each person being assessed in the referral.

Abstract titles link to event detail pages.

July 29, 2020 - 11:45 AM PDT Breakout 3: Sociology and Public Affairs Panel H

NATARA BOATMAN
University of Wisconsin-Whitewater
Social Media's Effect on Women's Body Image within the African American Community

Extensive literature has focused on the media influences on the body images of women, but little has been done solely on the African American community. The purpose of this study is to assess just the African American community and how Black women (ages 18-30) are being negatively affected by ideal portrayals on social media. This study will focus on the different characteristics such as; Skin complexions, hair types, and body types, and how there are certain qualities from these characteristics that are depicted as more attractive than the other. This will be a quantitative study in which a survey will be conducted and assessed to see if these positive portrayals of what is ideal is affecting the way that African American women are viewing themselves. This study will be conducted to assess and provide women with adequate knowledge, training, or other resources to counteract the negative impact of self-image as a result of media representations.

JILLIAN DANIELS
University at Buffalo, SUNY
The Design of Revolution: Modeling Multimodal Conditions for Systemic Racism and Insurrection

Systematic oppression in the United States is the result of multi-level design decisions made through policy, the visual image of superiority v. inferiority, and the perception of those who are deemed worthy to be seen in the American image. False perceptions of the abilities and attributions of Black, Brown, and other marginalized peoples historically and politically have cemented themselves into the systems and environments that govern our everyday interactions, disproportionately harming these peoples by creating political and sociological disenfranchisement. The Design of Revolution is a system modeling approach that works by synthesizing John Powell's model for systemic structural racism with Systems Theoretic Accident Models and Processes in order to examine the totality of the Black minority experience in the United States of America. The Systems Theoretic Process Analysis method models the conditions for accident causation that can be applied to the continued persecution of peoples in the US and the subsequent insurrection seen today. STPA is capable of representing the verbal (i.e. propagated speech), visual (i.e. semiotics and visual perception of stimuli), internalized (i.e. propagated action from the visual perception of stimuli), and externalized (i.e. actions under opposition/oppression) of each system and environment in visual form to model conditions that cause multi-level inequity. This presentation will illustrate how independent variables of Black oppression come together to create the conditions for multi-level system success where the system goal is the oppression and restraint of the Black minority to the 'Rule of Law'.

ZION SOLOMON
University of California, Santa Barbara
Life After Social Death: A Black Womanist Liberation Theology

With specific attention to the status of Black women in America, I plan to argue that the works of Hortense Spillers, Toni Morrison, bell hooks, Alexis Pauline Gumbs, Mai'a Williams and a host of Black Womanist revolutionary thinkers illustrate the lived dystopian realities of Black women surviving under capitalism. Drawing on the social commentary of Emile Durkheim, Bernard Steiger, Max Weber, and Karl Marx, and Octavia Butler, I plan to discuss the function of religion in upholding power, tradition, and authority, and argue that because no existing hegemonic structures reward Black feminine life, Black womanist liberation must be actively against all forms of domination and oppression in their current state. I argue that Black women in pursuit of self-actualization under a white patriarchal economic world order, resist mythical conceptions of Black womanhood created to justify the conditions enslavement that made industrialization possible, and define themselves for themselves. I plan to prove that in divesting from all structures of domination, the embodiment of a margin-first, trans, and queer Black womanist liberative theology radically redefines the sacred and profane. I hypothesize that this process of holistic healing in which Black women at the margins not only survive, but make themselves free, is not tied to a creed, but rather a political revolutionary positionally. I plan to investigate the manner in which Black Womanism builds a liberative theological framework, one that calls on personal power and divinity, self-autonomy, value and connection to all life, and the end of domination.

Abstract titles link to event detail pages.

July 29, 2020 - 1:45 PM PDT Breakout 4: Biology Panel A

TRINITI FITTS
University at Buffalo, SUNY
What is the role of GATA2 in endometrial stromal cells as it relates to preterm birth?

Preterm birth is a multifactorial and complex process that can result in physiological deficits and infant death. Genetics play an important role in regulating gestation length and the timing of birth, which can have a direct relationship with or indirect influence on the function of other genes or mechanisms of pathways in the system. Genome-wide association (GWA) studies have been used to discover common genetic markers (e.g., SNPs) associated with different traits and diseases, including gestation length and preterm birth. Unfortunately, these studies have implicated very few genes for preterm birth. For instance, the transcription factor GATA2, plays an important role in establishing fertility and pregnancy, but it is unknown if it serves a specific purpose at the end of pregnancy. While GWA studies can establish an association between genes and traits, they cannot identify how genes are connected to specific traits such as pregnancy or preterm birth. Additionally, the connection between GATA2's role in pregnancy and its implication in preterm birth is still unknown. Since GATA2 has an influential role in the uterus we can use genomic data from endometrial stromal cells to identify its function in human beings during pregnancy. We can also reanalyze GATA2 functional genomic data generated from endometrial stromal cells to determine if GATA2 has functions related to pre/term birth. This will help us to understand the biological system as a whole which will provide some insight into why preterm birth occurs.

AMY RESSLER
University at Buffalo, SUNY
A survey of eIF4B structure, function, and role in translation initiation

A suite of eukaryotic translation initiation factors (eIFs) interact with mRNA and ribosomal subunits before commencement of mRNA translation. Therefore, strategic disruption or repair to these eIFs potentiates development of efficient pharmaceutical and genetic therapies. This literature review compiles extant data and discussion surrounding eIF4B, a factor which performs multiple, crucial functions in translation initiation. Eukaryotic translation is initiated by binding a ternary complex (TC), composed of eIF2, methionyl initiator tRNA (Met-tRNAi), and GTP, to the 40S ribosomal subunit. The resultant 43S pre-initiation complex (PIC) then relies on eIF4B for mRNA recruitment and binding so that it may begin scanning the mRNA in search of a start codon. eIF4B is further understood to participate in synchronistic interaction with helicase eIF4A, solidifying eIF4B's critical importance in cell proliferation and survival. Examination of eIF4B's structures, interactions, and over-all functionality offers inspiration for development of relevant cancer and genetic therapies.

JAMEKA WIGGINS
University of Maryland, Baltimore County
Customizable Tools for Measuring Polymer Degradation

Man-made plastics and natural biomass are a rich source of carbon-based chemicals. There is growing interest in developing more efficient methods for converting these polymeric materials into value-added chemicals. A challenge in working with polymers is they are insoluble in aqueous solutions. Consequently, they interfere with direct photo- and fluorometric measurements. To eliminate this problem, we have devised 3D printed biomass containment devices that simplify the measurement of polymer degradation in real-time. A related devise is a centrifuge filter. We have designed a reusable filter device that fits into standard sized centrifuge tubes and can be used with a filter of any pore size. The utility of the device was demonstrated using a dye release assay. The assay used Azocoll, an insoluble protease substrate to which a dye is covalently attached. Proteolytic degradation results in the release of soluble dye. The Azocoll in buffered saline was placed into the top portion of the centrifuge devices fitted with 0.2 µm filters. A protease solution was dispensed into the filter devices at staggered time intervals and incubated. The devices were centrifuged to separate the released dye from the substrate. The absorbance at 520 nm of the filtrate solution was measured. The results showed a time-dependent increase in absorbance in the filtrate, which was indicative of the Azocoll substrate being degraded by the protease. It is predicted that by changing the pore size of the filter, polymer fragments of different sizes can be obtained thereby permitting more precise analyses of polymer degradation.

Abstract titles link to event detail pages.

July 29, 2020 - 1:45 PM PDT Breakout 4: Chemistry and Biochemistry Panel B

MAHAA ALBUSHARIF
University of Nebraska–Lincoln
The origin and role of conformational strain in enzyme catalysis

Enzyme structure and conformational dynamics are important determinants of their catalytic function. Enzymes often catalyze reactions by forming one or more intermediates, which have been difficult to observe real-time in the past. Using advanced techniques such as serial crystallography allows us to directly observe enzyme turnover and understand non-equilibrium enzyme motions in enzyme microcrystals. Serial crystallography thus provides new opportunities to observe and characterize functional enzyme dynamics. We investigated a cysteine-dependent enzyme called isocyanide hydratase (ICH) which forms a covalent catalytic intermediate that modifies the structure and dynamics of the protein near the active site. ICH, a bacterial enzyme that converts antibiotics into inactive formamides, contributes to major microbial resistance against isocyanide natural products. In the ultrahigh-resolution (0.74 Å) crystal structure of Ralstonia ICH, we observe three outliers in the Ramachandran plot, two of which are well-supported by electron density and residue near the active site. The third outlier has poor electron density, indicating a possible error in the model. In addition, Ralstonia ICH contains several aromatic residues that deviate from planarity, an unexpected form of amino acid sidechain strain that we validated by inspection of the electron density maps. These strained residues are near the active site and other functionally important regions of ICH, suggesting that the strained protein conformations may facilitate motions during catalysis. Understanding how catalysis-activated motions promote progress along the reaction coordinate will improve our understanding of the role that conformational dynamics and geometric strain play into the function of enzymes during active catalysis.

AKHILA KIRAN
University at Buffalo, SUNY
Literature analysis of players in canonical NF-kB signaling in B cells

The project is focused on the literature analysis of published research about different players in NF-kB signaling with knockouts of different genes in mice. The Ets1 gene encodes a transcription factor highly expressed in B and T lymphocytes and, has shown altered expressions associated with susceptibility to autoimmune diseases, highlighting its potential relevance in disease mechanisms. Previous studies have shown that Ets1 can restrain B cell differentiation into antibody-secreting plasma cells. Signaling through the B cell receptor (BCR) downregulates Ets1 through a pathway dependent on kinases - PI3K, Btk, IKK2 and JNK. The IKK kinase complex is composed of the kinases IKK1, IKK2 and NEMO and is a core element of the NF-kB signaling cascade. Since inhibitor studies had demonstrated that the activity of IKK2 is essential for downregulation of Ets1, we hypothesize that IKK2 directly binds to Ets1 and subsequently phosphorylates it, leading to Ets1 protein downregulation. This hypothesis is supported by recent studies in a head and neck cancer cell line, which showed that Ets1 and IKK2 can physically interact. In Cal27CP cells, IKK2 signaling increases Ets1 levels, while in B cells IKK2 signaling decreases Ets1 levels. This indicates that there are differences in the outcome of these pathways in various cell types. Given these differences, it is important to validate whether or not Ets1 and IKK2 form a complex in B cells and whether this leads to Ets1 phosphorylation and reduced protein stability. In this literature analysis, I have studied relevant background material for this project, including papers related to the function of IKK2 and NF-kB including their roles in B cell development. As the Ets1 gene is a susceptibility locus for numerous autoimmune and inflammatory conditions, we hope to provide insight into the potential role of IKK2 in the regulation of Ets1 protein levels in B cells.

JONATHAN MARQUEZ
University of California, Davis
Biochemical Analysis of ADAR 1 Mutant to Characterize Potential Dimerization Events in ADAR 1

Adenosine Deaminase Acting on RNA (ADAR) is a base-editing enzyme that post-transcriptionally modifies the structure of an Adenosine on a double-stranded substrate to an Inosine. This structural change in inosine mirrors the structure of Guanosine, explaining its affinity to Cytosine base pairing. ADAR has recently shown biological implications in regards to immunotherapy, with studies revealing loss of ADAR genes increasing tumor sensitivity to therapeutic agents. We hypothesize that ADAR 1, an Isoform of ADAR, has a dimerization interface that is essential to ADAR's biochemistry-modifying properties. In order to support our hypothesis we introduced a mutation via primer mutagenesis and further expressed our mutated ADAR 1 gene after introducing it into a yeast construct. Once expressed, our ADAR enzyme was analyzed through a size exclusion column and deamination assays to further characterize the success of our hypothesis.

July 29, 2020 - 1:45 PM PDT Breakout 4: Education Panel C

CIEARA CLARK
Bowling Green State University
Transformative Learning Gains in Undergraduate Learning Assistants

The purpose of this study is to explore the Learning Assistant (LA) Program at Bowling Green State University (BGSU). The Learning Assistant Program is used to engage in transformative learning in lecture based introductory science courses at BGSU. Transformative learning "involves the most significant learning in adulthood, that of communicative learning, which entails the identification of problematic ideas, beliefs, values, and feelings; critically assessing their underlying assumptions; testing their justification through rational discourse, and striving for decisions through consensus building" (Mezirow, 1995; Mezirow & Associates,2000). Surveys are given at the end of each semester to the LA's; specifically, they code for transformation in four categories: confidence, skills, perspective, and identity. The survey responses are coded using a coding rubric developed by Springfield and Gwozdek. The factors that may affect the different categories of transformation are the type of Learning Assistants (LA) trainings and switching to virtual learning/lectures due to the pandemic. We hypothesized that Spring 2020 Learning Assistants were less transformed compared to Fall 2019 Learning Assistants. There were 75 responses for Fall 2019 Learning Assistants and 15 responses for Spring 2020 Learning Assistants to the survey. In the future, it is ideal to increase responses of Learning Assistants even in virtual settings to not only match non-virtual environment responses, but also to help such transformation within the virtual world translate properly to the real world.

SHANEQUEWA LOVE
Loyola Marymount University
The Educational Structure Within The Foster Care System

The study of the authors research focused on the Educational Structure Within the Foster Care System. Youth in the foster care system have many aspirations, which includes graduating from high school and attending college; however, foster youth residing in a residential setting struggle with academics, support, relationship, and mental health. The author examined various parameters regarding outside educational resources that would provide residential programs with additional support to foster youth. These resources included integrated services, campus support programs, and campus-based mentorships. A systematic review was used as a methodology to gather an extensive literary research, which examined three sub words, mentoring, education, and mental health. The author was able to find that in order for an academic increase to occur, youth residing in a residential facility should be introduced to outside educational programs that focus on mentoring, education, and mental health. The research suggests that foster youth residing at residential facilities with more access to these outside educational resources increases success in their academic outcome.

DAVID VARGAS EZQUIVEL
University of California, Davis
How Inclusive is the Holistic Review compared to the Standardized Admission Process in Higher Ed?

A holistic review admission process may increase equitable access for Latinx students as well as their degree completion rate. Currently, the Latinx community still has the lowest proportion of college and graduate degree earners in California. According to the Campaign for College Opportunity, "more than 15 million (40%) of California's population is Latinx" (2018). Thus, the success of the Latinx community is critical since it is the biggest ethnic group in the state. This data is significant both statewide and nationally since the academic success of the Latinx population directly affects the socio-economic future of those students. I am addressing and examining this educational discourse within institutional spaces as a way to intervene in the success of students, based on a complete comprehensive individual holistic evaluation. I have interviewed ten administrators, one Ph.D. student, and I have examined documents and publications by institutions that have implemented a holistic review process. Equitable access might lead to higher education rates, free of standardized admissions. The validity of this approach will be based on who can contribute to the academic community in meaningful ways, going beyond the reliance on standardized exams and other requirements.

Abstract titles link to event detail pages.

July 29, 2020 - 1:45 PM PDT Breakout 4: Engineering Panel D

JUANITA BENJAMIN
Texas Tech University
Augmented and 3D Modeling

Augmented Reality incorporates the mixture of virtual objects into real environments. It creates real-time interaction for the user. It also utilizes tools that are accessible to guarantee efficiency in the transmission of knowledge for a variety of operations in several environments. With the growing demand for numerous Augmented Reality applications, it has become more attainable on mobile devices, and it does not require specialized equipment to be utilized. Using 3D modeling in Augmented applications enhances the appeal for this type of technology. The user may be compelled to delve into what the reality can do, considering that the design of the user interface and visualization tools allow this to happen. There are many flaws still for this type of reality, but the goal is to continue developing so that numerous areas within industries can turn to this type of technology and appreciate its use. In this presentation will outline areas where Augmented Reality can be applied and how effective it will be. I also plan to develop an app with Augmented barcode markers, and 3D modeled airplanes. The creation of this app will include interactivity with the models in an immersive environment.

CHI NNOKA
University at Buffalo, SUNY
A Voxelization-based Resource Predictive Model for Metal Additive Manufacturing

For manufacturing companies such as our industry partner, saving on time and costs has beneficial prospects for additive manufacturing (AM). The main commercial motivation behind the presented work is to develop a predictive model capable of comprehensively and accurately estimating time and costs for the prebuild, build, and post-processing stages of additively manufactured metal parts, supporting a decision of whether or not to select AM as the fabrication strategy. This model uniquely utilizes voxelization techniques to discretize a 3D model, taking advantage of the similarities between voxelized representations and the layer-by-layer approach of additive processes. Using binary input, layer-by-layer infill and outline cross-sectional areas of a part and the associated printing times are estimated with help from the implementation of morphological operations from image-processing. Our model also uniquely considers powder depreciation (depending on the AM method used) and implements a voxel-based support structure algorithm developed in our previous work [Ghiasian et al., J. Mech. Des. (2020), 142(8): 082001]. Validation of the model will follow suit by comparing the time estimation results from our predictive model against the actual printing times from appropriate AM machines and the predicted time from the machines' associated software. The resource prediction results and the model's reliability will be discussed, as well as future adaptations and modifications. These include developing a voxel-based support structure algorithm for generating supports with varying morphology as well as in-built machine learning algorithms that allow the model to learn to generate optimized shape-varying support structures over time.

ASHLEY TAFOYA
University of New Mexico
Cell culture in 3D printable hydrogel microspheres comprising intrinsically disordered proteins

The purpose of this research is to manufacture a platform comprised of proteins using all water environments to replicate native extracellular matrix (ECMs) for the cells of interest to use the hydrogel scaffolding to regenerate. This research is designing bio-inspired ECMs with precisely engineered bioactivity and function for the application of regenerative medicine. Regenerative medicine has been limited by the lack of biocompatible materials that are able to replicate the complexity found in the human body. 3D printing has been shown to be a solution for creating multicellular architectures. However, 3D printing lowers the viability of the cells of interest due to the shear force from the printer nozzle. We will develop bioink that recapitulate native ECM using a biocompatible material that will increase cell viability throughout the 3D printing process. ECMs provide the scaffolding and initiates the chemical and mechanical cues for the development of specific cell types. ECM environments can be replicated using cell encapsulating hydrogels formed from elastin-like polypeptides (ELPs). ELPs create microspheres comprised of polymers that are inert and bioactive. This research uses acustofluidics to generate cell-laden protein ECM microspheres. Cell culture and functionality in ECM microspheres will be demonstrated. The 3D printable bioink comprised of ECM microspheres will be used for tissue engineering. By demonstrating the unique properties of programmable polypeptides assemblies for the creation of 3D cell-ECM bio printable inks this project will contribute to the area of regenerative medicine and tissue engineering.

Abstract titles link to event detail pages.

July 29, 2020 - 1:45 PM PDT Breakout 4: Humanities Panel E

NICOLE PACELLI
Northeastern Illinois University
Gender and Genre in Midsommar

This presentation will explore the relationship between genre and representations of gender in Ari Aster's 2019 film Midsommar. In a recent interview, Aster suggests that "Genre filmmaking provides you with a sturdy framework that you can lay messier emotions onto and tell a very personal story, but it provides you with a strict path that you have to adhere to and forces you to find the catharsis in that story." While Aster highlights the importance of genre in his filmmaking, critics have struggled to place the genre of Midsommar. The film's conventions and affects are firmly rooted in the folk horror genre, yet Aster himself has identified Midsommar as a breakup film. This tension between genres positions Midsommar as a film that transcends horror. While the horror genre conventionally subjects the feminine to an arc of victimization at the hands of a monstrous other followed by redemption, Midsommar instead shows the female protagonist establishing a sense of self by participating in horrific ritual violence. Midsommar's use of gender has generated questions that mediate how viewers engage with the genre. The aim of my research is to explore the ways in which Midsommar both participates in and goes beyond its genre conventions.

CATHY PRECIADO
The University of Texas at Austin
Undocumenting Superman

In September 2017, the Trump administration made the shocking decision to rescind DACA, the Deferred Action for Childhood Arrivals program that offered temporary relief from deportation to eligible immigrant youth who came to the United States as children. That same week, Action Comics No. 987 published a scene in which Superman faces off with a disgruntled ex-employee and white supremacist who intends to kill the undocumented workers he believes "stole" his job. In this paper, I explore the current discourse surrounding Superman, showing how in our contemporary political moment, this cultural icon has become an increasingly polarizing figure. Superman and his alter-ego, Clark Kent, are conventionally imagined as symbols of American heroism and traditional American values. However, what scholars and fans both often overlook is that our caped crusader is an undocumented immigrant. However, he is not profiled or read that way because he assimilates well into the dominant culture as a cisgender-heterosexual, white man – cloaked in the red, white, and blue, but at a heavy price. Through the close reading of Superman comic history, panels, media portrayals, and ethnography, I highlight how both the Man of Steel and the Mexican undocumented community in the U.S. embody heroism – forced to perform nationalism and pledge allegiance to a country built on their exploited labor. I intend to reimagine what it means to be a reader and fan of Superman and to deconstruct what it means to be an undocumented immigrant in both the media and the real world.

RACHEL ROSADO
John Jay College of Criminal Justice
Expanding American Narratives: the Novelty of Crazy Rich Asians

In 2018 Warner Bros. released Crazy Rich Asians, a film eagerly anticipated because it features an all-Asian cast in the industry that has a history of stereotyping Asians and Asian-Americans. Prior research has confirmed that yellow peril and the model minority stereotypes have had a negative impact on Asian-Americans. Mainstream movies that portray Asian and Asian-Americans using stereotypes feed the idea that they are foreigners. The film industry (usually led by non-Asians) have used such narratives to maintain a racial order, where Asians have continuously been portrayed as the racialized other. Although existing research validates film as a major contributor to popular culture, there is a lack of studies on recent movies. The current study would contribute to the existing research by focusing on Crazy Rich Asians (2018), the latest and most successful example of exploring the complexities of the Asian and Asian-American experience. It uses textual interpretation and historical contextualization to better understand social and cultural history. The current findings show how Crazy Rich Asians 2018 has contrasted prior movies in major ways that answered an increase in demands from American audiences. Audiences responded in commercially viable ways to a more inclusive cast and production. However, as successful as the movie is, it also continues the idea that Asia consists of a few countries and neglects the broader idea that Asia is made up of 48 countries.

Abstract titles link to event detail pages.

July 29, 2020 - 1:45 PM PDT Breakout 4: MIMG Panel F

EMANUEL BURGOS-ROBLES
University of Wisconsin-Madison
Bacterial gene essentiality in a high-aspect rotating vessel is largely independent of gravity

Animals and microbes have co-evolved symbiotic partnerships that are essential for tissue and immune development, nutrient acquisition, and defense from pathogens. These associations are also critical to maintaining astronaut health during long-duration spaceflight which creates a need to understand the development and stability of microbial symbioses under microgravity. In the laboratory, a high-aspect rotating vessel (HARV) bioreactor can be used to simulate microgravity and assess its impact on model organisms such as the specific symbiosis formed by Vibrio fischeri bacteria colonizing the Hawaiian bobtail squid (Euprymna scolopes) light organ. We applied transposon insertion sequencing (INSeq) to query the fitness of each bacterial gene of V. fischeri during growth in simulated microgravity using this reactor. We obtained results that suggest minimal gene essentiality under microgravity. We obtained reproducible results from biological replicates (R2 > 0.95). Of the approximately 3,373 non-essential genes in V. fischeri, we did not observe any genes with mutants that exhibited a 3-fold depletion exclusively in microgravity. We did observe a number of genes (n=165) for which mutants were depleted 3-fold under both conditions, as well as genes that showed a greater effect under microgravity (n=16) or under gravity (n=18). We also validated the global results by conducting competition assays between a parent strain and defined bacterial mutants. From this study, we conclude that the effect of the HARV bioreactor has a greater impact on gene requirement than the gravity or simulated microgravity conditions, and that transcriptomics does not determine gene essentiality.

ASHLEY WALLACE
Bowling Green State University
Educational Outreach of Antibiotics and its Resistants

Prescriptions of broad spectrum antibiotics in general practice often does not consensus with regulations and guidelines. The occurrence and spread of antibiotic resistance in diverse communities is due to the excessive use of antibiotics that are prescribed for different infections. There are many misconceptions about antibiotic use among the general public which is the main reason for the inappropriate usage of antibiotics. Exploitation of antibiotics include but are not limited to, failure to complete prescribed drug, skipping doses, recycling of leftover medicines, and overuse and over-prescription of antibiotics. The purpose and aim of this research is to determine whether educational outreach could be the possible strategy to promote safer use of antibiotics and mitigate the dangers antibiotic resistance poses to the public. Meta-Analysis was used to conduct this research by looking at eligible studies assessing educational resources about antibiotics and resistant. This research is for the general public along with the general practitioners in relation to reduction of self-medicating and responsible antibiotic prescribing practices respectively. The objective is to educate individuals about antibiotic resistance and to decrease total antibiotic use for unnecessary acute diagnosed infections and prophylactic treatments in patients. Thus far this research has concluded that using tailored educational material targeting antibiotic use will improve the public knowledge about antibiotic resistant's. Future research should continue seeking the impact education has on the participants regarding antibiotics and its resistant.

Abstract titles link to event detail pages.

NICK ZEEDYK
Bowling Green State University
Environmental Bacteria Inhibit Multi-drug Resistant Cystic Fibrosis Derived Pathogens

Current predictions suggest that by the year 2050 approximately 10 million people will die annually due to multi-drug resistant (MDR) pathogens, resulting in the leading cause of death worldwide. Due to low-profit margins, nearly all major pharmaceutical companies have stopped the discovery of new antibiotics. Thus, the need for new drugs is an urgent concern. Although much is known about the disease state and virulence factors produced by most pathogens, understanding their ecological lifecycle may provide insight to their vulnerability since most pathogens are at a low abundance in the environment. We, in the Wildschutte lab, hypothesize that the low fitness of pathogens in nature results, in part, from antibiotic production by the natural strains that dominate non-human ecological habitats. To test this hypothesis, isolated 576 environmental strains from soil and water samples and the 16S rRNA gene was amplified, sequenced, and used to determine phylogenetic relatedness. To identify antagonistic activity, all environmental strains were tested against a panel of 28 cystic fibrosis derived MDR pathogens. For this assay, environmental strains were co-cultured with a pathogen and screened for a zone of inhibition, of which 76 bacteria strains were able to inhibit 25 of the pathogens. Transposon mutagenesis is being optimized and will be used in further research to identify genes involved in antagonistic activity. Bioinformatic analysis will later determine if the genes are rare and encode novel antagonistic compounds.

July 29, 2020 - 1:45 PM PDT Breakout 4: Psychology and Cognitive Science Panel G

ALEXIS HARRELL
University at Buffalo, SUNY
Racial Microaggressions in Higher Education: Review and Research Recommendations

Throughout history, racism has taken multiple forms. Recently, theory and research on one such form—racial microaggressions—has emerged. These subtle expressions of discrimination involve brief, often ambiguous, interactions that may harm individuals through verbal, physical, and institutional means solely based on that individual's race. Racial microaggressions impact the lives of many in the academic, workplace, and social settings. The overarching goal of this research is to provide a pathway that may lead to beneficial changes for students of color in the academic sphere. To address this goal, my project specifically focuses on how racial microaggressions may negatively impact the academic performance of students of color. For this project, I have examined the conceptual underpinnings of the microaggressions construct, including the current debate in the field about how to define, measure, and investigate microaggressions, as well as empirical studies on the effects of microaggressions. From this review, I will propose ideas for future research, centering on best practices for better understanding the potential causal impact of racial microaggressions on the academic performance of college students of color. This presentation will cover an introduction of racial microaggressions, how they are studied and debated, as well as discussing findings and recommendations for future study within higher education.

DEMARKO FLANAGAN
Loyola Marymount University
An Application and Evaluation of the Autism-Specific Model of Restrictive Eating Difficulties: A Case Study

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by impairments in social communication and restricted and repetitive behaviors (American Psychological Association, 2013). Prior research has suggested that these core diagnostic impairments are related to increased levels of disordered eating observed in autistic individuals (Kinnaird et. al, 2019). This pattern of disordered eating is particularly relevant for women on the spectrum, who have an elevated risk of developing an eating disorder (Mandy & Tchanturia, 2015). Indeed, a recent qualitative study developed a conceptual framework, known as the Autistic-Specific Model of Restrictive Eating Difficulties (ASMRED), to illustrate the relationship between autistic-related difficulties and restrictive eating behaviors in autistic women (Brede et al., 2020). However, knowledge about the link between autistic women and eating behaviors remains scarce. The current study aims to evaluate how the autism-related symptoms and contextual experiences of a woman on the spectrum correspond to the ASMRED conceptual framework. A semi-structured interview was conducted that inquired about the experiences and eating patterns of one autistic woman with a history of anorexia. A deductive approach to data analysis was employed to draw thematic similarities between the content of the interview and the ASMRED conceptual framework. Findings demonstrate some consistency with multiple themes in the conceptual framework, but the AMSRED failed to capture how autism-related symptoms and environmental factors may impact non-restrictive and healthy eating practices. Future research should continue to investigate the positive implications of the core domains of ASD on food selectivity.

Abstract titles link to event detail pages.

ARIEL PRUYSER
Loyola Marymount University

Embodied Emotional Communication is Reduced in Autism Spectrum Disorder

Social communication and sensorimotor deficits are prevalent in individuals with Autism Spectrum Disorder (ASD; American Psychiatric Association, 2013). However, little is known about how ASD impacts the ability to perceive, interpret, and communicate the sensations occurring inside one's own body when experiencing emotions. The purpose of this study is to investigate the type of language expressed when describing emotions, and how spontaneous gestures, such as pointing, are used to express somatic manifestations of emotional states in youths with ASD. A semi-structured interview was conducted with participants ages 9-17 with a diagnosis of ASD (n=26) as well as their typically developing (TD) peers (n =25), probing experiences of bodily sensations for each of the six basic emotions (i.e. fear, anger, disgust, sadness, happiness, and surprise). Interviews were coded for use of physical descriptions of felt emotion (sensations, actions, or physiological responses), and for pointing to the body to describe the emotional experience. A two-tailed independent samples t-test demonstrated that TD children used significantly more embodied language than ASD children (p=.036) with the largest group difference observed for describing surprise (p=.01) and disgust (p=.054). No significant group differences were found for pointing, however, age and pointing were positively correlated in the ASD sample r(25) = .48, p =.014. These results suggest that youths with ASD may be less sensitive than TD youths to bodily states experienced during emotions. In particular, this may be most prevalent in disgust and surprise, and this difference may be reduced across development.

Abstract titles link to event detail pages.

July 29, 2020 - 1:45 PM PDT Breakout 4: Psychology and Cognitive Science Panel H

HAVEN BLACKMON
Florida International University
Psychosocial factors influencing adolescents' intentions to use ENDS

Due to the rise of availability and popularity of electronic nicotine delivery systems (ENDS), an increasing number of adolescents have become consumers of these products. Prior research has demonstrated that peer ENDS use has a significant effect on adolescents' intentions to use ENDS, with resistance to peer influence and attitudes toward ENDS mediating this pathway. We hypothesized that the belief social facilitation is a consequence of ENDS use may be an additional mediator in this pathway. Adolescents (N= 264, 14-17 years old) completed the Population Assessment of Tobacco and Health (PATH), the Resistance to Peer Influence (RPI) scale, the Peer Norms and Activities (PNA) survey and the Adolescent Smoking Consequences Questionnaire (ASCQ) adapted for ENDS. Using the PROCESS plug-in for SPSS v. 26, the above-stated serial multiple mediator model was extended by adding this social facilitation variable as a third mediator. We found a signifcant indirect effect (β= 0.0019; 95%CI= [0.0014, 0.0054]) of peer use through resistance to peer influence, attitudes toward ends and belief that ENDS use is a social facilitator was significant such that: (1) more peer use was associated with decreased resistance to peer influence (β= -0.057, p= 0.0007), (2) less resistance to peer influence was associated with more positive attitudes towards ENDS (β= -2.446, p= 0.0053), (3) more positive ENDS attitudes was associated with a higher belief that social facilitation is a consequence of ENDS use (β= 0.267, p< 0.0001) and, in turn, with greater future use intentions (β= 0.025, p= 0.0185). These findings suggest that interventions aiming to reduce the positive image of ENDS among adolescents may be effective in decreasing intentions to use ENDS use among teens.

ALBA CRUZ VARGAS
John Jay College of Criminal Justice
A Cross-Cultural Study of Empathy in Latinx and Caucasians

Empathy is defined as the ability to understand or feel what another person is feeling. There are two forms of empathy: (1) cognitive empathy is understanding what another person is feeling; (2) affective empathy is feeling what another person is feeling. There is not much research done on cultural differences in empathy, but I am investigating whether there are differences in empathy between people from collectivistic and individualistic cultures. Collectivistic cultures focus on the needs of a group, while individualistic cultures are more focused on themselves rather than groups. My research question asks "In the United States, do Latinx people have more empathy than Caucasians?" This study will consist of a secondary analysis of data collected from over 500 college students. To assess cognitive and affective empathy, participants completed the 28 items on the Interpersonal Reactivity Index (Davis, 1980; 1983). I will be conducting 6 Student t-tests to compare the scores from the IRI for Latinx and Caucasian students. I hypothesize that because Latinx students belong to a collectivistic culture, they will show higher levels of empathy in comparison to students of other races/ethnicities, particularly Caucasians. It is important to study how empathy can be influenced by culture because it may allow us to understand others better, which would lead to a better society. This is especially essential for mental health professionals, in order to deepen their understanding of clients' emotions. Understanding how different people experience empathy can also lead to greater tolerance for different cultures in the general population.

SAMANTHA KORDAHI
Texas Tech University

How Latinx Cultural Values and Intergenerational Acculturation Conflict Influence the Risk of Alcohol Use in Emerging Adults

The Latinx culture contains definitive values that really shape and provide an environmental space that is distinguishable from other cultures. While these values are protective, research has shown that notable discrepancies in cultural values between parents and emerging adults can lead to increased conflict and other negative mental health outcomes. The purpose of the present study is to examine the relationship between parent-child discrepancies on Latinx cultural values (familism/respeto) and alcohol use as moderated by parent-child conflict. Further, studies have shown that Latinx emerging adults are more likely than non-Latinx emerging adults to use a variety of substances. The study sample will be comprised of 400 Latinx emerging adults who will take an anonymous online survey. Within this survey, we will analyze the relationship of cultural values (predictor), parent-child conflict (moderator), and the risk of alcohol use (outcome) of emerging adults and both, their mothers and fathers. We aim to acquire a better understanding on how these variables can influence the risk of alcohol use in Latinx emerging adults. The findings of this study will help inform potential prevention and intervention programming that may be useful for Latinx college students.

Abstract titles link to event detail pages.

July 29, 2020 - 3:00 PM PDT Breakout 5: Arts and Multimedia Panel A

ARNELL KINNEY
Wayne State University
Social Dance and the Black Aesthetic

This research presentation examines the work of Black female choreographer, Camille A. Brown. This research is an analysis of Brown's use of historical Black and African American dance as the central theme behind three choreographic productions created and performed by Camille A. Brown and Dancers, Brown's professional company. The analysis aims to unpack the meaning and significance of Brown's recent works "Mr. TOL E RAncE" (2012), "Black Girl: Linguistic Play"(2015), and "ink" (2017). Building upon this examination, this presentation also uplifts how Brown's work contributes to the aesthetics of Black and African American dance in the present and includes the relationship of black experiences to the culture of social dance styles. Preliminary analysis has identified key concepts associated with black dance and its effect on community, ritual, protest, and cultures of the Black American experience as present in Brown's productions.

DAPHNE WATSON
Northeastern Illinois University
The Uhura Effect: How the character of Uhura in Star Trek (1966-1969) influenced Black women's and girls' decisions to enter STEM fields during the mid-twentieth century.

Research regarding how Black audiences interpret media inputs typically focuses on how youth respond to violent programming. The impact of non-stereotypical depictions of Blackness in American entertainment television, at least in a historic context, is lacking robust scholarship. From television's beginnings, there have been few non-stereotypical roles for Black American women. Because of its aspirational multicultural casting at the height of the American Civil Rights Movement, Star Trek (1966-1969) drew significant attention, particularly for the character of Communications Officer Lt. Uhura, a non-stereotypical portrayal of a Black woman. This cultural anthropological study will explore if and how the character of Uhura influenced young Black women and girls to enter STEM (science, technology, engineering, and Math) fields in the mid-twentieth century. Although contemporary research, such as the "Scully Effect" and "Portray Her" reports, investigate how female audiences process images of women in STEM on television, they do not include racial and cultural factors in their analysis. This project invites self-identified Black and Indigenous Women of Color (BIWOC) with careers in STEM fields to complete a survey to quantify their experiences with Uhura and the impact of media representation. Survey respondents who were born before 1960 and express a willingness to be interviewed will be contacted for a virtual one-on-one meeting. This investigation will analyze real-life perceptions of career options available to BIWOC in the mid-twentieth century and expand on existing Cultural Studies and Critical Race Theory research on television history and media representation.

Abstract titles link to event detail pages.

July 29, 2020 - 3:00 PM PDT Breakout 5: Biology Panel B

ABRAHAM ALVAREZ
University of Wisconsin-Whitewater
Investigating Remediation of Nutrient Wastewater through Algal Cultivation

The aim of this study is to conduct a hydroponic growth cycle for leafy greens using water soluble nutrients that come in two premixed concentrations containing Nitrogen (N) 2.0% , Calcium (Ca) 1.0% , Iron (Fe) 0.05% , Phosphate (P2O5) 1.0 % , Soluble Potash (K2O) 0.5% , Magnesium (Mg) 0.3% , Sulfur (S) 3.0%, Boron (B) 0.01% , Copper (Cu) 0.001%, Manganese (Mn) 0.005%, Molybdenum (Mo) 0.0005% and Zinc (Zn) 0.005%. These nutrients are added by 20mL/gallon resulting in a total of 400mL of nutrient concentrations added to the 20-gallon water reservoir. The growth of the leafy greens requires control of photoperiods, pH and temperature. After growing the leafy greens which include lettuce, basil, cilantro and arugula the water reservoir will be taken to a laboratory to autoclave which will remove any living organisms which may interfere with the experiment. The nutrient wastewater will be used in the experimental growth of Chlorella, Anabaena and Scenedesmus using the Magenta GA-7 growth vessel. The algal culture which is most productive using the nutrient wastewater will serve as the microorganism for a photobioreactor. A photobioreactor is capable of growing organisms such as plants, mosses, microorganisms, algae and bacteria using light and carbon dioxide to produce biomass. These organisms through photosynthesis can clean carbon out of the atmosphere, remediate polluted water and serve as a biofuel. As the indoor agriculture industry grows, renewable energy sources such as photobioreactors and photovoltaics must be essential components to reduce energy use and be more biomimetic.

KEVIN GARCIA
University of California, Santa Barbara
Comparing Utility of Algal Photoenzyme Variants for the Production of Biologically Derived Natural Gas

This research investigates the ability of the microbial protein, fatty acid photodecarboxylase (FAP), to make propane (natural gas) from butyric acid. The purpose being to provide an effective alternative to fracking, an environmentally controversial method for obtaining natural gas. There are several aquatic organisms that have the gene for FAP; for our experiments, we selected three: Chlorella variabilis, Emiliania huxleyi, Phaeodactylum tricornutum. Their genes are being tested on the efficiency of the protein they produce to make propane gas from butyric acid. In total, three unique plasmids, one from each organism, were inserted into E. coli cells and tested for the functionality and efficiency of the FAP made. Our preliminary data suggests coccolithophore, Emiliania huxleyi (variant EhFAP) is the most promising FAP homolog. Currently, biofuel production process is limited by the build-up of toxic fatty acid byproducts. FAP addresses the toxic fatty acid build up by converting it into natural gas.

July 29, 2020 - 3:00 PM PDT Breakout 5: Clinical Medicine, Dentistry, and Public Health Panel C

PAOLA VIDAL-ESPINOZA
University of California, Davis
Comparison of Survival Times of Adult and Nymph Brown Dog Ticks in Extreme Temperatures and Humidity

The brown dog tick, formally known as Rhipicephalus sanguineus, has a worldwide distribution and is a vector for diseases of people and other animals, including potentially fatal Rocky Mountain spotted fever (RMSF). Multiple RMSF outbreaks have occurred recently in northern Mexico and Arizona. Recently, it has been described the brown dog tick is not truly a single species but rather comprises a species complex with a distinct tropical lineage and temperate lineage. These lineages were thought to be limited geographically by climatic conditions but the tropical lineage is now extending its range northward. The aim of this study is to compare survival between these lineages under extreme environmental conditions. This study looks at how long these tick lineages will be able to survive at low humidity (15%) and moderate humidity (75%) at temperatures ranging from 0 °C to 45 °C. Conclusions from this study will allow us to understand what factors might influence how ticks might spread, and will help predict how different lineages of the species might spread disease in the future.

SYDNEY BERRY
Kent State University
Vaccine Hesitancy in Animal Owners

Vaccines have proven to be one of the most effective prevention and control methods ever created. There are numerous reasons why vaccines are an essential component to human and animal health. They prevent the spread of life-threatening illnesses and provide immunity to reduce the risk of contracting a disease. Though there is evidence that immunization is necessary, many people chose to not vaccinate themselves, their children, and their animals due to religious and/or philosophical beliefs. The purpose of this research was to investigate why animal owners choose to not vaccinate their pets, and how veterinarians respond to these vaccine-hesitant clients. For this research, we surveyed practitioners from the Ohio Veterinary Medical Association. Surveys were developed to investigate client and practitioner views on the safety of vaccines. In addition, we determined which conversations were most effective in convincing clients to vaccinate their pets. We collected data from these surveys on the type of vaccines that are offered at the veterinarian's office and client skepticism. Results are pending.

Abstract titles link to event detail pages.

July 29, 2020 - 3:00 PM PDT Breakout 5: Math, Stats and Physics Panel D

MARCIA HAWKINS-DAY
Siena Heights University
Using the Point Flow Model to Rank the WHAC Women's Basketball Conference

Throughout history, sports teams have used a variety of ways to assess category rankings such as polling/voting, point accumulation, and win-loss records. The research in this presentation focuses on using a method of basketball team ranking based on the flow of points per minute of play. As a case study, we rank the teams within the WHAC Women's basketball conference for the 2018-19 and 2019-20 regular seasons.

ROSALIA HERNANDEZ
University of California, Santa Barbara
From Data to Interactive Visualizations: A Tool for Modeling and Forecasting Longevity Across U.S. Subpopulations

Longevity analysis provides valuable public health facts that improve quality of life and influence public policy. Analytical dashboards provide graphical displays of data that allows users to identify and share valuable trends and insights on the spot. This project's objective is to create an interactive and easy-to-use dashboard that statistically models and forecasts mortality trends among racial groups in the United States. These groups are categorized by Hispanic ethnicity, gender, and cause-of-death. Cause-of-death options include all-cause, cardiovascular disease, cancer, stroke, and external causes. Predictions of mortality data would offset the 2 to 3 year lag of compiling such data, allowing us to see what is likely happening right now, to forecast future mortality scenarios, and to illustrate de-noised past trends. We use Gaussian process regression on detailed mortality data from the Centers for Disease Control Wide-ranging Online Data for Epidemiologic Research. This modeling approach provides simultaneous modeling of metrics used by actuaries for mortality studies: mortality rates and improvement factors. We use Shiny, a free publicly accessible module package in R, to develop our longevity forecasting tool. Shiny provides flexibility in developing interactivity in data visualizations and a platform to deploy them for public access. The longevity forecasting tool interactively engages users to explore and gain a clearer picture of the mortality experiences across different U.S. sub-populations. With this app, we can examine longevity inequalities, diverging, or converging mortality experiences, identify cohort effects, compare mortality improvements among specific populations, and quantify associated uncertainties.

Abstract titles link to event detail pages.

July 29, 2020 - 3:00 PM PDT Breakout 5: Psychology and Cognitive Science Panel E

CHELSEA ANOWI, MICHAELLA COPE VALENZUELA, ALONDRA MIRANDA, KATIE PERRY
Westminster College
COVID-19: A Comparison of Student Traits and the Effects of Social Isolation During the Pandemic

The purpose of this study is to explore how experiences of the COVID-19 pandemic among college students relates to individual differences in temperament (ATQ, Evans & Rothbart, 2007), coping styles (COPE: Carver, 1997), perceived stress (PSS-10: Cohen, Kamarck, & Mermelstein, 1983), loneliness (De Jong-Giereld and 3-item R-UCLA Loneliness Scale, Russell, Peplau, & Ferguson, 1978; De Jong Gierveld & Van Tilburg, 2006), and perceived health and wellness during periods of social distancing and isolation. Using an anonymous online survey, a convenience sample of college students in the Salt Lake City, Utah, area will be recruited. We hypothesize that individuals that score higher on extraversion will report more negative emotions, more perceived stress and loneliness due to lowered social interaction, and that extraverts will be more likely to report problem-focused coping tendencies as a strategy to lower stress associated with decreased social activity during the pandemic. We also expect individuals that score higher on trait negative affect to report more perceived stress and loneliness, and to report tendencies involving emotion-focused coping as a strategy for lowering stress. We hypothesize that these personality traits and coping style differences will predict self-reports of positive and negative health and wellness behaviors. This research is important for understanding relationships among personality traits, coping tendencies, stress, loneliness, social isolation, and wellbeing, and might offer implications for helping inform public health, safety, and mental health awareness as the COVID-19 pandemic continues to evolve and efforts are made to support individuals experiencing loneliness and stress.

SARA WHITE
University of Nevada, Reno
Social Media Use and Psychological Well-being During the COVID-19 Pandemic

The majority of Americans use at least one social media platform daily (Pew Research Center, 2019). The associations between social media usage (SMU) and psychological well-being vary based on usage patterns. Whereas actively interacting with one's social network is associated with positive or neutral outcomes, passively viewing peers' posts often predicts negative adjustment (Escobar-Viera et. al, 2018). However, the effects of SMU may have changed in the face of COVID-19, the first prolonged, global health disaster in over a century. Along with physical symptoms, exploratory research demonstrates that the COVID-19 pandemic has caused serious damage to the mental health of the public (Huang & Zhao, 2020); therefore, examination of the pandemic's psychological consequences is crucial. This study will examine how college students' SMU has changed during the COVID-19 pandemic. The study is guided by two primary goals: (a) examining how individuals' SMU has changed during the pandemic, and (b) investigating how SMU during the pandemic relates to psychological well-being. College students (n=240) will complete a survey assessing social media usage, quarantine behaviors, depressive symptomology, and loneliness. The study is currently in the pilot phase; 5-10 participants will complete the survey and will be subsequently interviewed regarding their experiences. Results from these pilot interviews and preliminary survey responses will be presented. This study seeks to understand if social media helped or hindered individuals psychologically during the COVID-19 pandemic, which may aid future researchers in understanding how social media may be used in productive ways following a disaster.

Abstract titles link to event detail pages.

TING HUANG
University of Maryland, Baltimore County
Online Learning and Student Satisfaction During COVID-19

The COVID-19 outbreak in the spring of 2020 interrupted the life of every person on this globe. For students taking in-person courses, it meant that traditional learning came to a halt and was replaced with involuntary distance learning instead. This sudden shift may have impacted students' affective experience in learning. In this unprecedented learning environment, it is imperative for educators to test different methods of instruction to restore positive student satisfaction and help maintain academic progress. This research proposal provides a two-phase study that aims to identify students' perception of the new online learning environment. In Phase I, a survey will be used to receive feedback from university students regarding their online learning experience during the pandemic. Based on past research on the topic of online learning, the survey results are expected to uncover instructor course design, institutional resources, student self-efficacy, level of engagement, and learning outcomes as factors influencing student satisfaction. Additionally, stress regarding COVID-19 will be analyzed as another factor that may impact academic satisfaction. The data will then inform the experimental study in Phase II that varies the course design and opportunities for student engagement to examine what factors may enhance student satisfaction. The findings of this study are expected to provide a richer learning environment for students during COVID-19 and further the research on distance learning.

July 29, 2020 - 3:00 PM PDT Breakout 5: Psychology and Cognitive Science Panel F

ALYSSA AGUIRRE
Texas Tech University
The Discrimination of LGBTQ+ and Coming Out in the Workplace

This collection of articles summarizes the biological, mental, emotional, and other various effects of coming out as LGBTQ+ in the workplace, along with the pros and cons and how it impacts lives. Participants were recruited in several different surveys that consisted of different measures and various results. Other aspects that include psychological frameworks and theories are given, and whether or not the decision should be made to come out in the workplace with either positive or negative implications are also present. A summary of these findings can be shown in the negative light of not coming out with several cons, and how positive workplace relations can be influential by the person coming out and being accepted in that community, along with others that directly affect the person. Plans for the continuation of this research in a literature review is shown, especially with the recent addition to Title VII of the Civil Rights Act, and what the idea for the future is.

JOHANNA COHEN
University of Nevada, Reno
The Effect of Clinician Accent Bias on the Latinx Population

Bias and barriers are still present in the mental health care field today. They have been illustrated in research, implicitly and explicitly, through decreased treatment success and resource availability, evident with the lack of translators for minority groups. This study's aim is to utilize a telephone audit study, in which the clinician becomes the participant, to analyze whether the strength of a Spanish-language accent affects call back rates and appointment scheduling. This study is a replication of Kuglemass' (2016) study, where African American individuals were found to receive less call backs compared to their white counterparts, Kugelmass illustrated how socioeconomic status and characteristics influence access to behavioral healthcare. The Latinx community is the largest U.S. minority group, making it our group of interest; it is hypothesized that their callback rates will be based off socioeconomic status and accent severity, similar to previous findings. A total of 132 Reno, Nevada clinicians, listed as Blue Cross/Blue Shield providers, will be called to conduct the study to determine appointment success for individuals with light to heavy accents – includes both Spanish speaking and non-Spanish speaking clinicians. Being able to use Blue Cross/Blue Shield specific providers removes the necessity of a referral, allowing for easier scheduling access. Findings will illustrate further bias and barriers faced by the Latinx community that can assist clinicians in providing more accessible mental health care services and increased treatment success.

QUIANA HATTEN
Kent State University
Social Judgments About Accent Differences by People Who Stutter: An Evaluation of Implicit and Explicit Bias

The cognitive system may have a preference for categorical representations because categorizing helps us process a complex world (Ferguson, Roche, & Arnold, 2019). However, generalizing categories may lead to development of implicit and explicit biases resulting in harmful stereotypes (Ferguson, Roche, & Arnold, 2019). For example, categorizing groups based on regional dialect may result in the misconception that individuals with a Southern accent are more cognitively impaired (e.g., unintelligent; Phillips, 2012). Stereotypes of this kind (i.e., misconceptions about southern accents) may aggravate the stigma further for individuals from neuro-diverse populations (e.g., people who stutter - PWS). To evaluate our claim, a computer mouse-tracking paradigm was utilized to reveal implicit and explicit bias associated with negative social attributes about a Southern accented PWS and a Northern accented PWS. We hypothesize that the PWS with a Southern accent will be rated significantly more cognitively impaired than the PWS with a Northern accent. This trend may be more evident if there is an additional effect of two assumed negative stereotypes influencing the negative social perception about the speaker. The results could have important implications in real world contexts because it will shed light on whether or not negative social characteristics and punitive decisions are made due to further generalizations that are deemed to be less than or negative.

Abstract titles link to event detail pages.

July 29, 2020 - 3:00 PM PDT Breakout 5: Psychology and Cognitive Science Panel G

ROMELIA ARREDONDO-ARENAS
Our Lady of the Lake University
Do the Degree and Type of Responsibilities Predict Stress and Aggression Differently for Women and Men?

Historically it was not socially acceptable for women to behave aggressively and if some sort of aggressive behavior were to be shown, it would be discouraged (Richardson, Bernstein, & Taylor, 1979). Presently, different levels of aggression displayed by women possibly due to the multiple roles they play such as a mother, colleague, student, caregiver to others, etc. The different responsibilities of these roles can create stress from work, family life, school, financial support, limited resources, etc. The importance of this study is to understand women's degree and type of aggression by analyzing men's and women's responses to responsibilities that produce stress and aggression. This study will use primary data collected by using Qualtrics with the variables being responsibilities, stress, and aggression. Making this study a correlational analysis to see how these variables have a relationship. As a result, most of the respondents may be females. Additionally, there may also be many responsibilities that the participants experience in their day to day lives. This study may also show that emotional aggression is often demonstrated by females as a response to the stress created by responsibilities experienced. In conclusion, when women demonstrate aggression and stress it is due to the number of responsibilities in their daily lives.

JAKE LEDESMA
Our Lady of the Lake University
Qualitative Document Analysis: Inclusive and competent LGBTQIA service in San Antonio, TX

The purpose of this research is to review healthcare competence for LGBTQIA populations. Healthcare and Social Service Agencies in the San Antonio, Texas, serve marginalized people like the LGBTQIA. As such, Gender Binary code is used daily with clinical professionals. Many social and medical services report being culturally competent. Health disparities in the LGBTQIA community in medical and social services are essential to discuss because many articles have Prior research has e correlated adverse health outcomes for the LGBTQIA population if the agency they go too is not LGBTQIA inclusive and competent. Inclusiveness, Binary Code, Language ideology, biology, and gender Identity are the foundation of this research themes explored in this research. Also, Theories like the Minority Stress Model, Queer Theory Perspective, and Gender essentialism reflect the more profound challenge of LGBTQIA skilled care. Gender Binary code is used every day with our clinical professionals. In my research, my method is using This research uses Qualitative document analysis and examining to examine twenty agency intake forms from Social and Medical agencies in San Antonio, TX. The researcher will utilize manual coding and a Dedoose software platform to quantify analyze my data to find patterns of competent and inclusive words, phrases, and questions. I anticipate the research findings will find that the Social and Medical service agencies in San Antonio are not utilizing competent and inclusive language in their intake forms.

JOLIETH PINIERO
Florida International University
Assessing the Homeless Women's perceptions of and adherence to Clinicians' Recommendations in Multidisciplinary Services Settings

While studies have suggested that these multiple and tiered services are needed when working with vulnerable populations, few have evaluated their effectiveness within homeless populations (Asgary et al., 2016; Weinreb et al. 2002). Further, the ways in which stable and consistent services integrate culturally appropriate approaches that are respectful, comprehensive, and sensitive to clients' needs have yet to be assessed in the homelessness literature (Asgary et al., 2016; Gessler et al., 2005; Teruya et al. 2010). Due to survivors' chronic multiple morbidities, this study seeks to identify examine the intersecting influences of primary care, psychiatric, obstetrics/gynecology, and ancillary services influence on psychological well-being and commitment to provider recommendations. The cultural humility approaches will be assessed in term during perceptions of the streamlined intake procedures, disclosure of of patient histories, and securing of various health related services. Participants will be recruited from the largest women's homeless shelter in the United States, the Lotus House in Miami. This mixed methods study will gather quantitative data from 100 clients in the form of surveys, and qualitative data from 50 clients in the form of focus groups. As of October 2019, all focus groups have been completed.

Abstract titles link to event detail pages.

July 30, 2020 - 8:00 AM PDT Breakout 6: Arts and Multimedia Panel A

JOSHUA BELLAMY
Kent State University
The Parasocial Relationship of Kobe Bryant's Death and Media Coverage Theory

"Mr. 81, Kobe Wan Kenobi", Ocho, Bean, The Bean, KB-24, The Dagger, The G.O.A.T., and lastly known as "The Black Mamba." Kobe Bean Bryant was born on August 23, 1978. On January 26th, 2020, Kobe Bryant and his daughter Gianna and other friends were heading to a basketball game, aboard a helicopter. Shortly after, the helicopter experienced powered rotation and the rotors failed, making the helicopter crash into the Calabasas of California. Bryant's passing brought the world to a pause. This study employs the media theory of parasocial relationships to help explain the potential impact of Kobe Bryant's death on mental health of fans. The focus of this particular research project is to explore the media coverage of Bryant's death, in particular mediated expressions of black men grieving. Media accounts are not the sole way that people make sense of events, but they do shape the conversation. The concept of parasocial relationships focuses on the emotional investments in people that are only known through mediated accounts. Parasocial relationships are sprouted by consistent contact with the persona in which the media consumer grows a relationship with the figure and feels as if they know them.

DWAYNE GARY
Bowling Green State University
The Power of a Platform: How Celebrity Social Media's Influence Your Actions

The purpose of this study is to understand the power that celebrities have through their social media accounts. Over the years, we see that celebrities have used their social status for good and bad causes, but the real question is, whether if we (public) take what our favorite celebrities say as "law" too often? We live in an age where we would buy something just because we see a celebrity's face on the product, or they are endorsing the product. The concern with that is, are we following these figures blind just because of their status? This research is important because it can apply to marketing techniques, the general public's' understanding of societal habits, or help with advocacy efforts. In this qualitative study, tweets will be gathered using a software for social media analysis called Netlytics to find a correlation between celebrity tweets and real-life events. The findings of this experiment will hopefully show how society has put an importance on social media rather than just use it as an entertainment outlet. A future direction of this research can be understanding how to break the cycle of celebrities coming up with our "trending topics".

JENNA RUIZ
Kent State University
Eating Serial: Youth Perceptions of Community Violence, Juvenile Justice, and the Ability of a Podcast to be a Catalyst for Change

Issue - What happens when an "explosively popular" national podcast focused on the year spent in your city exploring the Justice System? First you cringe, because you have enjoyed their previous work but recognize how this might shine a negative light on issues that stigmatize your community. Then, after listening to the season, your perspective changes. You think this podcast could have broader implications, particularly among youth. Description - Accordingly, this project explores the attitudes and perspectives of youth who have listened to season 3 of the Serial podcast. Serial is an award winning podcast that each season, tells one unique story about criminal justice. Season 3 was released in the fall of 2018 and focused on an in-depth examination of the judicial system with untethered access to the Justice Center in Cleveland, Ohio. Through a series of interviews and discussion groups conducted in 2019-2020, we are digesting the stories, issues, and actions that emerge throughout the podcast. Lessons Learned – The resulting data has revealed the perceptions of youth related to the: criminal justice system; relationship between the community and law enforcement; and, impact of community violence. Finally, we consider how this podcast might be used as part of broader efforts that seek to reduce and prevent youth violence. Recommendations – Podcasts have been increasingly used as a learning tool in the educational setting. Perhaps, there is a role for podcasts within the realm of health promotion in order to improve and enhance the health of youth and our communities.

Abstract titles link to event detail pages.

July 30, 2020 - 8:00 AM PDT Breakout 6: Biology Panel B

ROSAMARI ORDUNA
University of California, Los Angeles
Revisiting Morphology of Ocean Sunfish Phylogenetic Placement

Ocean sunfishes (Molidae) have a convoluted taxonomic history, which has made it difficult to assign species identifications to individuals. Significant progress has been made in recent years to assign discrete morphological characters to species, however, establishing taxonomically informative morphological species characteristics has proved challenging. A recent study re-described the molid Mola alexandrini (senior synonym for Mola ramsayi) and assigned this species the common name "bump-head sunfish"(Sawai et al., 2018). Emphasis on the bump-head trait may be problematic, as a population of molids off the coast of Ceuta, Spain possesses both the M. alexandrini-associated bump-head, and a trait associated with M. mola (a wavy clavus). To resolve the taxonomic enigma and determine the genetic species clade, the hypervariable mitochondrial d-loop region was sequenced and a phylogenetic analysis was conducted on a population of molids from Ceuta, Spain. Spanish molids bearing both a bump-head characteristic and a wavy clavus clustered into d-loop species clade B, which is associated with M. mola. Given that species common names are known to impact monitoring efforts, our finding suggests that the association between the bump-head trait and M. alexandrini should be revisited. The genetic analysis conducted will also allow for the exploration of other research questions that will look for distinctions between the Pacific and Atlantic Ocean basins and will expectantly provide insight on migration of ocean sunfish.

NOEL SCHMITZ
University of Wisconsin-Whitewater
Antibiotics in ephemeral wetlands: How chlortetracycline affects tadpole shrimp and their food webs

Growth-promoting antibiotics are widely used in modern industrial agriculture. However, antibiotics are poorly assimilated by organisms leaving majority to be excreted and added into waterways via runoff. A microcosm study raising tadpole shrimp, fairy shrimp, clam shrimp, and ostracods was conducted to determine if chlortetracycline disrupts the tadpole shrimp food web. The number of survived tadpole shrimp, which are predators, from every trial was recorded to compare between antibiotic concentrations (0.0 ug/L, 0.1 ug/L, 1.0 ug/L). Based on the results using ANOVA, there was no statistical significance between the concentrations regarding the survival of the tadpole shrimp. However, further studies need to be conducted to determine if the prey species are more sensitive to concentrations of antibiotics than tadpole shrimp, which may possibly lead to disassembly of the food web. Aquatic macroinvertebrates serve as primary food sources for other organisms such as small fish species, so decrease of lower trophic levels may dismantle the food web from the bottom up.

SKYLER WILSON
University of Wisconsin-Whitewater
Predicting Future Coral Survival: The Effect Temperature Has On Soft Coral Physiology

Coral reefs are one of the most important ecosystems, however, due to global and regional threats, their future is uncertain. Increases in sea surface temperature, which decouple the animal host and photosynthesizing dinoflagellate symbiosis (coral bleaching), represent one of the greatest immediate threats to coral reefs. While decreases in ocean pH (ocean acidification) is a longer term threat to reef accretion. Much of the current research has focused on the single and combined effects of increased temperature and ocean acidification on hard skeleton producing corals. Yet, it remains unknown how these stressors affect soft coral physiology. Therefore, the single and combined effects of thermal stress and ocean acidification were tested on two species of soft coral, Capnella sp. and Sinularia Dura, over a treatment period of three months. Corals were treated under four conditions, including a control at ambient temperature and ambient pCO_2 (25.5°C, 390 ppm), thermal stress and ambient pCO_2 (31.0°C, 390 ppm), thermal stress and elevated pCO_2 (31.0°C, 750 ppm), and ambient temperature and elevated pCO_2 (25.5°C,750 ppm). Elevated pCO_2 concentrations were used to mimic current and projected atmospheric concentrations at the end of the century. To analyze coral physiology, we are currently measuring photosynthesis and respiration rates, total biomass, lipid, carbohydrate, and protein concentrations. These data will provide a greater understanding of how soft corals respond to temperature and pCO_2 in the context of current climate change and provide insight on how reef diversity and structure will change in the coming decades.

Abstract titles link to event detail pages.

July 30, 2020 - 8:00 AM PDT Breakout 6: Chemistry and Biochemistry Panel C

RAFAEL CASTRO
University of New Mexico
Synthesis and Characterization of LiYF4 Nanoparticles for Laser Cooling

This research identifies the method for synthesis of doped LiYF4 (YLF) nanocrystals that would result in high quantum yield, while using already available lab equipment. YLF nanocrystals have many unique and useful optical properties. These nanocrystals, especially when doped with lanthanides, can absorb and convert low-energy light in the near-infrared (NIR) range into photoluminescence emission with higher energy. Since the emitted photons have higher energy than the absorbed photons, this type of shift is referred to as an anti-Stokes shift, which can be used for laser cooling. The extra energy in the emission is a result of inclusion of phonons in the optical transistions, which cools the crystal. YLF nanocrystals have been shown to cooled to 130K and 114K through this method. While upconversion is also a similar process that results in cooling, it cannot be used for our purposes because the effect is not strong enough. This research produces a procedure to develop nanocrystals doped with Nd3+ using the precursors YCl3 and NdCl3 with oleic acid and ODE under a vacuum with heating and stirring. In this procedure, LiOH H2O and NH4F were then added and heated to reach the final product, followed by washing and centrifugation.

THOMAS TO
University of California, Davis
Comparison of Beta-glucosidase B (BglB) Point Mutation from Paenibacillus Polymyxa: L171G to L171A from a Thermal Stability and Catalytic Efficiency Analysis of Wild Type

Employing computational tools to predict enzyme stability and catalytic efficiency is a growing field in protein engineering. To improve the predictive accuracy of enzyme modeling software, a high-quality library of Michaelis-Menten and thermal stability (TM) data are needed for training the algorithms. As of 2019, a dataset of 129 mutants with Michaelis-Menten, thermal stability (T50) and expression constants of ß-glucosidase B from Paenibacillus polymyxa have been successfully characterized. To contribute to the expansion of this dataset, we designed, built and tested three-point mutations: L171G, L171V and L171W. The enzyme variants were modeled with Foldit software, built using Kunkel Mutagenesis methods by Escherichia coli, and the purified proteins were tested for kinetic activity and TM. This variant set was produced to investigate changes in amino acid size on overall structural stability by mutating non-polar, small amino acids to larger ones. Two of the three mutants: L171G and L171W, were characterized in E. coli. The TM for L171W indicated destabilization, while L171G remained similar to wild type. Moreover, L171G, showed an increase in kinetic activity. The addition of these mutations to the Design-to-Data (D2D) Course-based Undergraduate Research Experience database contribute to improved understanding of the structure-function relationship of ß-glucosidase B, and aid in improving the accuracy of computational modeling tools for protein design.

PHUOC TRAN
San Jose State University

The Investigation on the Effect of Solvent on the Mixture of L/D-Serine Through the Utilization of Circularly Polarized Luminescence via Pfeiffer Effect Mechanism

The chemicals in the drugs are very important in determining whether or not our sicknesses and/or diseases will be cured, and the proteins in our body have the active sites in which drugs bind to in order to do their function. Thus, chirality is very important in the field of medicine and pharmaceutical. Chirality is an important concept for drug molecules since they are often defined as chiral compounds. The focus in our research group is to use the racemic terbium(III) complex [Tb(DPA)3]3- (where DPA = 2,6-pyridinedicarboxylate), as a probe to investigate the chirality of simple biological materials such as amino acids. For our project specifically, we investigate the influence and effect of how different type of solvents will have an effect on the chiral recognition of a mixture of L/D-serine by using steady-state and time-resolved luminescence spectroscopic techniques as well as circularly polarized luminescence spectroscopy (CPL). From the results, we observe that 1,4-dioxane has the strongest perturbation effect of the racemic [Tb(DPA)3]3- equilibrium solution in the presence of the added serine mixture. This suggests that hydrophobic chemical structures can have the strongest effect on the perturbation of the chemical equilibrium. Thus, hydrophobic groups might be one of the keys in determining on how the Pfeiffer effect mechanism works. Our future studies are to investigate whether similar observations and patterns will appear when we use other types of amino acid mixtures. In conclusion, this research project can introduce a new technique in identifying the composition of mixtures of biological materials.

Abstract titles link to event detail pages.

July 30, 2020 - 8:00 AM PDT Breakout 6: Clinical Medicine, Dentistry and Public Health Panel D

MEGAN BIANCHI
Our Lady of the Lake University
The Effects of Ethnicity on Respiratory Muscle Strength

Maximal respiratory pressures are the numerical values that reflect the strength of respiratory muscles. This study is relevant to the communication sciences and disorders discipline because respiratory muscle strength is important for respiration, which is necessary for voice production. While there is research that suggests respiratory muscle strength is affected by factors such as age and gender, no published studies identify the relationship between respiratory muscle strength and ethnicity. Additionally, this lack of research contributes to a shortage of normative data needed to identify normal limits versus necessity for rehabilitation. Through a qualitative design, this study utilizes data from three existing studies for analysis of maximal respiratory pressures and available demographic information to determine if ethnicity is a factor in respiratory muscle strength. The maximal respiratory pressures and demographic information of 34 Hispanic and Caucasian participants were analyzed and found a statistical significance of the effect of ethnicity when all Hispanic participants were compared to all Caucasian participants (MIP $p=0.011$; MEP $p=0.020$). However, many of the participants had impaired respiration due to either traumatic brain injury (TBI) or Parkinson's disease (PD). A secondary test isolating ethnicity was conducted and revealed that there was no statistical significance between ethnicity and maximal respiratory pressures (MIP $p=0.802$; MEP $p=0.976$). Therefore, it can be concluded based on the findings of this study, that ethnicity does not affect an individual's respiratory muscle strength. Future studies should include individuals with and without respiratory impairments of all ethnicities.

CRISTELA SAMANIEGO
University of California, Davis
The Role of Multiethnic P-glycoprotein Drug Transporter Variants in Chemotherapy-Induced Peripheral Neurotoxicity (CIPN)

Chemotherapy-induced peripheral neurotoxicity (CIPN) is the most common side effect of cancer treatment, resulting in permanent pain and loss of sensation in hands and feet. Based on their mechanism of action, CIPN-causing chemotherapeutics are divided into several classes, including platinum-based compounds, taxanes, and protease inhibitors. Cumulative exposures and mixtures of these substances can further aggravate CIPN. In the central nervous system (CNS) and peripheral nervous system (PNS), the multidrug-resistance transporter P-glycoprotein (P-gp) is the major determinant of drug uptake and disposition. However, P-gp has lower expression levels in the blood-nerve-barrier of the PNS as compared to the CNS blood-brain-barrier. Genetic differences in this transporter gene, based on individual or ethnic background, have been shown to alter P-glycoprotein's protective efflux function and further complicate effective chemotherapy. The aim of this study is to determine the molecular interactions of human P-gp with chemotherapeutics known to cause CIPN. In addition, we seek to determine the effects of two so-called single-nucleotide polymorphisms (SNPs) that are associated with altered transport function, including S893A and S893T. We will test the hypothesis that single CIPN-causing chemotherapeutics or their binary combinations can block P-gp, and that this effect is different in SNP-carrying P-gp variants. We will clone, express, and purify three P-gp variants (WT, S893A, S893T) and determine the molecular interactions with 6 known CIPN-causing drugs using an optimized ATPase activity assay. The results of this project will identify CIPN drugs as substrates or inhibitors of human P-gp and inform co-administration protocols to alleviate CIPN across ethnic groups.

Abstract titles link to event detail pages.

DENISE VELASQUEZ
Our Lady of the Lake University
Prediction of VO2max in College-Aged Students Using a Series of Non-Invasive Predictor Variables via Multiple Regression

VO2max is the maximal volume of oxygen consumption per minute during high-intensity exercise. VO2max is the best indicator of cardiorespiratory fitness. The most common method of measuring VO2max is by a process called indirect calorimetry. This requires a subject's expired gases to be measured during a graded exercise test of progressively increasing intensity on a treadmill or stationary bicycle. The test ends when the subject reaches volitional exhaustion. However, VO2max testing requires expensive equipment and a trained technician. Thus, we propose to establish a prediction equation for VO2max using a series of predictor variables that are easily measured and non-invasive; body mass index, body composition, resting heart rate, waist to hip ratio, hip flexibility and muscle endurance. Our multiple regression prediction equation may provide a valid and reliable method to estimate VO2max that will be portable and easily administered. We will recruit 20 students from Our Lady of the Lake University to serve as subjects for our study. We hypothesize that we can generate an equation that will predict a significant amount of variability in VO2max.

Abstract titles link to event detail pages.

July 30, 2020 - 8:00 AM PDT Breakout 6: Education Panel E

ASHANTI BLACK
Kent State University

Exploring the Role of Social Supports in Transition for Students with High-Functioning Autism

Autism is characterized by pervasive deficits in social communication and social interaction across multiple contexts, including poor receptive and expressive language skills, reduced sharing of interests, reduced understanding of emotion, and low levels of reciprocal social interactions. These characteristics may impact transition to post-secondary employment and education and maintaining meaningful relationships. Whereas individuals with lower cognitive and social functioning are likely to be severely impacted in these areas, individuals with high functioning autism (HFA) may be impacted less, or in more subtle ways. In order to enhance the likelihood of success for individuals with autism, it is imperative that transition planning incorporates a multidimensional approach. This comprehensive literature review compared informant reports from parents, educators, and the individuals with HFA themselves on how various social supports impact the success of transitions in individuals with high functioning autism. Specifically, this research project explored the following questions: (1) How do social supports impact transition outcomes for individuals with high functioning autism? (2) What kinds of social supports have been explored in individuals with high functioning autism, in relation to transition outcomes? (3) What kinds of transition-related outcomes have been assessed as related to the impact of social supports for individuals with high functioning autism? (4) What are the similarities and differences among various informants on how social support variables impact transition outcome in individuals with high functioning autism? In addition to addressing these questions, this research project includes implications for research and practice.

KRISTAL ORTA MARTINEZ
University of California, Los Angeles

Investigating Disparities in Service, Education, and Healthcare Impacting Latinx Autistic Communities

For many years, Autism research has focused on developing a cure with hopes to eradicate the condition. Today, more research is now being conducted on how to best support Autistic individuals, more specifically toward independent living and higher education. Although research has found disparities regarding support like services, education, and healthcare within the Latinx Autism community (Zuckerman, 2017), minimal research has examined the reasons that have led to these disparities (Liptack, 2018). Given the gap in the literature, this exploratory study is guided by the following question: What are some of the elements (e.g. lack of information regarding Autism, access to health care, etc.) that cause disparities faced by Latinx Autistic children? This study hypothesizes that cultural, economic, and racial disadvantages are in place that impede Latinx families from receiving government and state services, equal education rights, and healthcare benefits. This study utilizes semi-structured interviews with parents of Autistic children to unearth which sector they have experienced the most difficulty with when searching for support for their child(ren), as well as to understand why these disparities exist. The reason for this research is to reveal the important points that are likely to contribute to disparities to access. By illuminating specific environments or institutions that contribute to disparities in access, they can then be addressed and remedied.

AMBER RICHARD
The University of Texas at Austin

Reviewing the intersectionality of race, gender, and autism in identities of women and adolescent girls

This literature review aims to examine the direction of current studies on intersectionality and autism, along with their role in identity acculturation. A majority of autism research is based on results collected from male participants, influencing clinical assessments and services that exclude females and women from the social perception of autism. Within this literature review, many of the studies conducted have highlighted the lived experiences of women and adolescent girls with autism through a collection of open-ended, semi-structured interviews. The study designs included narrative inquiry and interpretive phenomenological analysis, and the use of theories such as emancipatory theory, disability critical race theory, and personal construct theory. Common themes throughout all studies were conflicting participant reports on camouflaging autistic behaviors, the rebuking of extreme male brain theory, and the impact of diagnosis (or misdiagnosis) on identity, relationships, and mental health. Despite the emergence of literature on the importance of gender in autism and identity, there is a limited amount of research calling attention to the lived experiences of women and girls from diverse racial and ethnic backgrounds, such as Black and Latina populations. Including the unique perspectives of these individuals would allow for an increased holistic understanding of intersectionality on identity formation and the barriers to diagnosis, access to services, and inclusion.

Abstract titles link to event detail pages.

July 30, 2020 - 8:00 AM PDT Breakout 6: Psychology and Cognitive Science Panel F

GABRIELA CARMONA
Northeastern Illinois University
Perceptions of Physical Activity Among Latinx College Students & Their Engagement

Physical activity among the Latinx community is insufficient. According to the Centers for Disease Control and Prevention (2015), 1 in 6 people residing in the US is Hispanic. The Latinx population is rapidly increasing; therefore, it is vital to understand their health care needs. Specific health problems are prevalent at a much higher rate among the Latinx population. The Centers for Disease Control (2015) state that the Latinx community is about 50% more likely to die from diabetes and other lifelong illnesses as opposed to Caucasians. Regular physical activity improves overall health and reduces the risks of chronic diseases. College is a time when lifelong health patterns are established; students must develop healthier routines to maintain overall good health throughout their life. Despite a lack of studies on Latinx college students' physical activity, existing studies have indicated that Hispanics' ethnic-specific attitudes have contributed to their lack of physical activity engagement. Self-efficacy has been identified as a predictor of exercise adherence within the social cognitive theory; however, its applicability is limited within the Latinx community (McAuley & Blissmer, 2000). The purpose of the present study is to use the social-cognitive theory to explain the lack of physical activity among Latinx college students. This mixed-methods study will examine perceptions of physical activity and fitness among college students. These findings will provide a tailored and targeted direction for future health care practice and research to increase physical activity among the Latinx population.

APRIL GARGAC
Bowling Green State University
Am I Scared of Death? Exploring the Relationships Between Spirituality, Ideas About One's Mortality, Death Anxiety and Mental Health in College Students

Death anxiety has been found to be highest among people in their 20's (Russac 2005). Additionally, there has been a dramatic increase in the rate of college students seeking mental health services. The purpose of this study is to explore the relationships among spirituality, ideas about one's mortality, death anxiety, and mental health (specifically depression, anxiety and stress) in college students. Surveys will be distributed to college students in the Midwest using a convenience sample. Spirituality will be measured using the Spirituality Involvement and Beliefs Scale (1998), ideas about one's mortality will be measured using the Belief in an Afterlife Scale (1973), death anxiety will be measured using the Death Anxiety Scale (1970), and mental health will be measured using the Depression Anxiety Stress Scale (1995). I expect higher levels of spirituality will be positively related to mental health and death anxiety will be related to poorer mental health. I also hypothesize that the relationship between death anxiety and spirituality will be moderated by belief in an afterlife. If these findings obtain, it would suggest that spirituality may need to be incorporated when resolving mental health issues in college students, with special attention paid to death anxiety and belief of an afterlife. Future research in these areas can further the conversation surrounding death, a topic that is often overlooked but nonetheless important in young adults as they transition into adulthood and continue their search for a meaningful life.

TONIQUA LAWRENCE
University at Buffalo, SUNY
Parental Social Control on College Students Regarding Academics

When in college, students are engaged in a unique realm of academics, freedom, and responsibility. Unfortunately, many students struggle with the shift in obligations that comes with transitioning from being a pre-college student to being in-college. College students also experience loss in structure regarding academic performance because of fewer collegiate accountability measures. This leads to dependence on close or previous methods of accountability such as family and friends to ensure success, leading to a dependence on their social network to navigate their newfound responsibilities. Social control is a concept that refers to behaviors implemented by the people in one's social network to influence that individual's actions. These behaviors are usually executed by close persons such as family members or significant others. Social control can be used to affect diet, exercise, health management, study habits, and more. This study examines parental social control of college students' behavior regarding academics, as well as how those actions may have changed during the COVID-19 crisis. In this study, I sought to have a sample of n = 7 college students interviewed on parental social control tactics regarding their academic practices. My hypothesis is that parental figures will have a large impact on academic performance, with an increase in influence regarding the COVID-19 transition, and will engage in direct and indirect social control measures to influence their student's grades. Through this study, I hope to understand the effect of parental involvement on student achievement as well as the effect of COVID-19 on this process.

July 30, 2020 - 8:00 AM PDT Breakout 6: Sociology and Public Affairs Panel G

SANA ALI
Bowling Green State University
Police Convictions: A Case Analysis

Despite public outcry over police corruption and misconduct going back beyond the 1969 Stonewall Riots and stretching through the historical spark in the 2020 Black Lives Matter movement, there is very limited research on the subject. This deficiency of research and data is due to a variety of obstacles including a lack of exhaustive disciplinary record-keeping from any given law-enforcement agency, an inability to track unreported or unnoticed corruption and misconduct grounded in the code-of-silence culture, and an ample number of uncontrollable variables surrounding officers' personal characteristics, and more. It is vital that more research is conducted to properly address this rampant issue in our communities, which endangers the relationship between law enforcement and the public, as well as the economic and physical wellbeing of society. The current study is an exploratory analysis that utilizes the case study approach of fatal police encounters. The purpose of this analysis is to assess what factors appear to influence a court's final decision on an officer's conviction for a fatal police encounter. The observations made can further inform a discussion regarding the dissociation between the public's need for morality and the law's requirement of legality.

LEAH HALL
Bowling Green State University
Is the Cost Too High: Understanding Corrections Corporation of America's Private Prisons

The purpose of this study is to assess four components of private, for-profit prisons: 1) inmates, 2) community benefits, 3) the private prison industrial complex, and 4) political benefits. This study will solely focus on the Corrections Corporation of America (CCA) which is the founding and largest private prison corporation in the United States (Mattera, Khan, & Nathan, 2003). The research conducted will be exploratory, searching for common themes and issues of CCA and its facilities. There is evidence that CCA uses its profit for investments in multiple organizations and purposes aside from improving their approximately 70 correctional institutions. In contrast to previous research, the conclusion drawn from the audience will be discretionary. The preliminary results conclude whether prison privatization makes sense beyond the pursuit of profit.

MALAYSIA MCGINNIS
University of Maryland, Baltimore County
Decades of Drugs and Terror: an analysis of the racialized opioid epidemic in Baltimore City

Baltimore City is plagued by militarized police and harsh sentencing, both justified by the efforts made to fight the War on Drugs and Terror since the late 1970s. There is a great dependence on the disenfranchisement, over-policing, and oppression of Black people in neighborhoods reduced to high drug traffic areas. The 80s crack-cocaine epidemic in Baltimore City left the groundwork for the racialized opioid crisis that continues to develop throughout the early 2000s. The work of Bobby WIlson, Adam Bledsoe, and Willie Wright evidence the interdependence of capitalism and anti-blackness – in which they are the driving force for the global economy and the maintenance of global-social hierarchy. McKittrick and Hawthorne's work sets the theoretical framework for analyzing Black geographies and the specific a-spatiality occupied by Black people. Cooley and a group of panelists on The Real Baltimore explain the dependence on intense direct and indirect surveillance, and harsh sentencing. This study uses discourse analysis of news sources including primary and secondary accounts of the personal effects of the war on drugs in Baltimore in answering questions like: What happens when black people are disenfranchised, and how does it happen? What effect does that have and why is it important? I contribute to this discussion that the war on drugs and terror from the 1980s has thus justified the "need" for a militarized police force and produced a racialized opioid crisis in Baltimore City in the 2010s.

Abstract titles link to event detail pages.

July 30, 2020 - 9:15 AM PDT Breakout 7: Atmospheric and Environmental Science Poster Session A

ANGEL DE LOS SANTOS, GLADIS ADORNO
Kean University
Haneda Airport (DATA) Dome Adapting Travel Awareness

In a world of globalization, airport travel will always play an important role in human activity—both professionally and personally. Still, major consideration needs to be given to how future airports and terminal design can innovatively respond to environmental and health challenges with technological advancements. Our goal for this research is to study and propose how an airport for 2100 will be able to adapt to its changing environment, while bringing awareness of climate change to its users. Tokyo International Airport, also known as Haneda Airport is located in Tokyo Bay, Japan and will serve as our specific site for this project to evaluate the critical environmental challenges that can help inform this new design concept. We will analyze the reduction of air quality from increased carbon footprints, negative ground soil effects from land reclamation through garbage landfilling, rising sea levels and changes to the ecosystem. Our research led us to believe that to make positive impacts on climate change, we must first design our airport to raise awareness of climate change. To do so, we have created three zones within our airport. Each zone contains a major airport function and structure and focuses on one of three natural elements (air, land, and water) that have been negatively impacted by climate change.

JUSTINE BURNETT
Kean University
Impact of Human Foot Traffic on Soil Quality: A comparative study on soil chemical and physical properties

Despite the current state of degradation on the environment, humans rarely recognize the ways in which they impact their surroundings. From large-scale issues such as pollution and climate change, to small-scale issues such as soil degradation from avid tourism, human activity has a clear influence on the environment. In this research project, we compared two different field sites with relatively different rates of human foot traffic to compare the impact of small-scale anthropogenic activities on soil qualities. A comprehensive literature review was conducted to gather background information on previous work in the soil science field. Multiple sub-samples and analyses were conducted for each field site to increase confidence and robustness in our data. We measured a wide range of chemical concentrations as well as physical properties of the two sites in order to understand the impact of human activity on soil quality. Results from our study will provide insight on how the environment responds to human activities and provide a milestone on how to create a sustainable plan for local parks.

KATHY LE
University of Colorado, Denver
Environmental Temperature and Eczema

Inflammation of the skin can result in red, dry, scaly patches; this is a disease known as eczema. Research shows that different temperature thresholds and lengths of exposure to natural heat and cool dry air can trigger these types of inflammation. Therefore, my research question asks how does environmental temperature affect eczema? While there is some research exploring the relationship between eczema and environmental factors such as temperature, climate, and weather, this research area is still synthesizing climate change and its effects on eczema. I identified 10 studies using the following criteria: temperature or climate or weather AND atopic dermatitis or eczema as search terms on the Pubmed database, and manually filtering out studies that did not quantitatively assess the association of temperature and eczema. 80% of the articles answered indicate ambient temperature influences eczema symptoms. Within these studies, authors found both high and low temperatures affect eczema due to certain interactions in the climate such as geographic location, humidity, air pollutants, and seasonal differences. This meta-analysis of 10 articles provides a starting point to further explore how temperature affects eczema in different aspects of climate change. Ultimately, I hope that my ongoing research on the topic contributes to our understanding of eczema and climate change research.

Abstract titles link to event detail pages.

GABRIELA TORRES
Loyola Marymount University
Modeling Climate Stressors in Coastal Environments and Predictive Harmful Algal Bloom Models

California coastal environments are home to many species vulnerable to the effects of climate change. Modeling climate stressors may help predict future movements and range tolerance of species. Focusing on Southern California marine species, this research adds important new insights which may inform policy and adaptive management decisions. Literature reviews were performed to inform and refine sea surface temperature models while assessing key physiological parameters of species which cause harmful algal blooms (HAB). The optimal growth temperature for the HAB species of interest, Pseudo-nitzschia australis, was identified between 12.5 and 16□. Regionally scaled-down climate models, specifically for sea surface temperature, were used to determine potential impacts and habitat range shifts of the species. Both present (1986-2005) and near-future (2011-2050) were modeled. Habitat suitability models developed using data from the National Oceanic and Atmospheric Administration depicted the frequency of suitable days per year in which sea surface temperature fell in a specified temperature range. Additionally, the data were used to verify the accuracy of projected data from eight of the eleven climate change projection models from the Intergovernmental Panel on Climate Change. Prediction maps indicated a northern shift in the frequency of the optimal growth range for P. australis. Further studies will examine patterns of temperature geographic ranges, seasonality, and nutrient and light availability. As the environment changes, modeling climate stressors helps predict potential likelihood and range of HAB occurrences and helps fisheries and other agencies prepare mitigation and adaptation strategies to protect human health accordingly.

July 30, 2020 - 9:15 AM PDT Breakout 7: Biology Poster Session B

ERNEST AFOAKWAH
Kean University
The Effects of Flavonoids on Dental Health, and Possible Influence on Dietary Recommendations

Several studies have shown that flavonoids provide enormous benefits including antioxidative and antibacterial effects; and even improving cardiovascular health. In recent years, flavonoids have become very important in dentistry, partly because their antioxidant property is thought to be able to inhibit carcinogens through antiangiogenic effects. They also exhibit very potent antibacterial effects — this has caused them to be used in the production of toothpastes and mouthwashes, after surgeries to prevent microbes from entering the bloodstream, or for maintaining the vitality of periodontal cells and avulsed teeth, etc. Ultimately, flavonoids help to improve oral and overall health of populations, but the total flavonoid intake amongst Americans may be lower than what the United States Department of Agriculture deems healthy, or when compared to a major coffee-producing nation like Brazil. Total flavonoid intake through meals in the United States could potentially improve if nutritionists and physicians encourage their patients to include major flavonoid foods in their diet.

CRISTIAN SARABIA
University of Colorado, Denver
Immune Response of Type 1 Diabetes

Type 1 diabetes (T1D) is an autoimmune disease that typically occurs in young children and lasts a lifetime. The autoimmune disease is diagnosed by the presence of autoantibodies and results in the lack of insulin. In the United States around 5-10% of people have T1D and at which most affected are children. This literature review served to expose if there is a correlation between location and prevalence of T1D. Exposing a correlation between location and prevalence of T1D allows for a proactive approach to prevention. A comprehensive literature review was conducted via reviewing 25 articles that were both scholarly and peer-reviewed from the Auraria library database. The database was searched via the three keywords: Type I Diabetes, Environmental Factors, and Pathophysiology. These 3 were chosen since we're not sure why or how T1D develops, and to look at the possible environmental factors that may lead to the development of T1D. The literature review resulted in three major themes including T1D's most well-known mechanism beginning genetics, the second that TD1 has potential unknown trigger factors that contribute to prevalence, and the final theme was the lack of literature on location. In conclusion, there is not enough research surrounding location and TD1 prevalence in order to make a correlation. Future research will look towards exposing the potential unknown trigger factors.

JUDY TRAN
University of Colorado, Denver
Stress and Diabetes Mellitus Amongst First-Generation and Low-Income Families: A Literature Review

Diabetes mellitus is a metabolic disease that can be compounded by stress. First-generation families undergo a variety of psychological stressors that can be exacerbated from academic or personal obligations due to diabetes mellitus. My project seeks to better understand how stress uniquely impacts first-generation and low-income families. Based on the existing literature, I hypothesized that diabetes does affect psychological stress in first-generation and low-income families. Of the 13 articles reviewed from the PubMed database, I have concluded that while there is a large body of literature on the relationship between stress and diabetes there is insufficient attention to first-generation or socioeconomic status within this field. Further research will include in-depth interviews with first-generation, low-income families in the Denver metro area. Ultimately, understanding stressors, physiological impacts of stress, and stress management allow for a proactive holistic approach to healthcare that serves to create a system of equity for the target group, opposed to reactive inequitable treatment.

Abstract titles link to event detail pages.

PAULO VIVANCO OJEDA
Kean University
Using qRT-PCR to Measure the Effects of Niclosamide in TGFβ-1 Gene Expression

Microglia is a type of glial cell that is found in the central nervous system. Under normal physiological conditions, microglia cells function as "guardians," cleaning cell debris and apoptotic cells by phagocytosis. However, when microglia reach a tumor, the tumor cells lure them into an "alternative" mode, polarizing macrophages into immunosuppressive and tumor-supportive cells. Tumor-associated macrophages (TAM) in the tumor stroma has a decisive effect on tumor progression. These cells release soluble factors such as immunosuppressive cytokines IL-4 and TGF-β into the environment, which induce a more aggressive and invasive phenotype in tumor cells. TGFβ-1 is an immunosuppressive gene produced by several cell lineages such as lymphocytes, macrophages, and dendritic cells. This gene has pleiotropic properties on the immune response during the development of infectious diseases and cancer. TGF-β is well-known for promoting tumor progression, playing an essential role in mediating microglial stimulation of glioma invasion. This study tested Niclosamide, an anthelmintic drug, on Mice brain microglia and analyzed its effect on TGFβ-1 gene expression using a method called Quantitative Real-Time Polymerase Chain Reaction. The results determined that Niclosamide reduced TGFβ-1 gene expression by turning off the gene to a large extent upon treatment with 10uM of the drug, which suggests that Niclosamide may be developed as a novel treatment for more than just helminthic diseases. The results obtained during this study are encouraging because Niclosamide could constitute a potential anticancer agent and contribute to cancer treatment by limiting the expression of immunosuppressive genes.

MILIANO MIKOL
Loyola Marymount University
Tight Forests and the Chromatic Polynomial

Let G be a graph without three-cycles. A spanning forest F of G is said to be tight if, for each tree in F, all paths beginning with the smallest vertex of the tree avoid the patterns 231, 312, and 321. The generating function for tight forests of G is equal to the chromatic polynomial of G up to a sign change iff the total order on the vertices of G is a quasi- perfect order. This project strives to determine which graphs have such characteristics by first exploring the following concept: gluing two or more of such graphs to create a new quasi- perfect order graph. We proved that gluing along a single vertex produces our desired result if the vertex is the smallest of at least one graph for every connected pair of graphs. Additionally, we proved that if, for every pair of connected graphs, there are no three cycles and the two smallest vertices of at least one graph are adjacent, then gluing on that edge produces our desired result. Future research will consider other gluing cases.

July 30, 2020 - 9:15 AM PDT Breakout 7: Biology Poster Session C

CHRISTIAN ESCRITT
Southern Nazarene University
Arbovirus Surveillance in Oklahoma

Oklahoma has 64 known species of native and invasive mosquitoes from nine different genera that occur seasonally. Several of these species are medically important as they are vectors of diseases like West Nile Virus (WNV), Zika, and Chikungunya. Our goal was to determine vector mosquito abundance, diversity, and performed arbovirus surveillance in mosquitoes collected in four counties in Oklahoma. Mosquitoes were trapped using CDC miniature light trap, CDC gravid trap, and GAT trap across an urban-rural gradient in the Oklahoma City metro area. Collected mosquitoes were identified, females were sorted by species and pooled for arboviral RNA screening using RT-qPCR. A total of 75 trappings events took place from May to June of 2019, resulting in 3,178 mosquitoes trapped spanning 19 species from five genera. Landscape played a major role in determining the abundance of the species collected and urban areas sustained a hotspot for mosquito diversity. Aedes vexans, Culex tarsalis, and Culex pipiens/quinquefasciatus accounted for 37%, 20% and 15% of the total number of mosquitoes collected, respectively. The CO_2 baited CDC miniature light was the most efficient in trapping mosquitoes. Broad range primers were used to detect Flavivirus,Alphavirus, and Bunyavirus in mosquitoes trapped . Samples tested positive for the Flaviviridae family were further analyzed using WNV specific primers . We detected 25 mosquito pools positive for Flavivirus, four of which were positive for WNV, in the early stage of WNV transmission season in Oklahoma. This active surveillance is relevant for public health applications and outbreak prevention efforts.

RAUL IGLESIAS
Southern Nazarene University
Identification of Mosquitoes in Oklahoma

The mosquitoes' purpose in our ecosystem is to provide food for different species and also for pollination. Mosquitoes can also have a negative impact in our ecosystem because they can spread viruses, making them one of the most dangerous species in the world. The purpose of this research is to identify different species in Oklahoma Using key characteristics and it is also to detect the presence of vector mosquito species in the area. 64 Species have been previously detected in Oklahoma and with our initial report, it shows two new species that have not been recorded yet in Oklahoma. The new species found is Aedes canadensis and Aedes stimulans bringing the Species record in Oklahoma to 66. A total of 1,476 mosquitoes were captured using CO2-n baited CDC light, CDC Gravid and GAT trap. From 12 different trapping sites in Oklahoma, 24 (22 previously recorded and 2 newly reported) different species were recorded in this research from five genera: Aedes, Culex, Anopheles, Orthopodomyia and Psorophora. The Genus Culex was the most abundant with 604 mosquitoes. The Culex pipien was the most abundant with 393 mosquitoes and the second most abundant species was the Aedes vexan with 338. It is important for the public health to know the biology of a mosquito and know what species of mosquitoes carry and transmit viruses.

BATOOL UNAR SYED
Baylor University
Oviposition and Olfactometer-Based Behavioral Responses in Ae. aegypti

Oviposition assays are used to study the process of laying eggs. Female oviposition has been thoroughly studied in scientific literature, however there are still a plethora of unanswered questions in this field. By studying the volatile odors that attract oviposition in female mosquitoes, better trapping and surveillance methods can be developed to prevent the further spreading of neglected tropical diseases and to encourage public health initiatives. The three main volatile odors studied were beet root extract, oak leaf infusion, and geosmin while deionized water served as the control. Geosmin is an organic compound that is developed in aquatic and soil-dwelling bacteria that contributes to the "earthy" odor after rainfall. Beet roots contain geosmin, but oak leaves do not; however, both volatile odors contain several other compounds that combine to attract mosquitoes. In the study, we expect that the number of eggs oviposited by female Aedes aegypti mosquitoes will be significantly higher with beet root extract than with geosmin, water-only, and oak leaf infusion in the laboratory setting. In addition to oviposition, olfactometer-based behavioral assays were conducted using the same volatile odors to test host-seeking in female mosquitoes. Olfactometry is a standardized technique that utilizes a dilution instrument known as an olfactometer. By better understanding host and oviposition preference the female mosquito's sensory biology can be further studied and the neuronal responses and molecular basis of host preference can be identified in order to develop better preventative techniques and vector control.

Abstract titles link to event detail pages.

ALYSSA WHEELER
Southern Nazarene University

Mosquito Arbovirus Susceptibility and Insecticide Resistance Surveillance

Mosquito-borne diseases have affected millions of people each year causing severe illnesses and death in many cases. Knowledge and surveillance of arbovirus spread and increasing insecticide resistance among mosquitoes is essential in aiding control efforts and conserving public health. Our project was a collaboration with the NASA Globe Observer program, which allows citizen scientists to collect and record data to efficiently monitor for the presence of medically important vectors around the globe. We specifically focused on screening lab-reared larvae, collected during the 2019 NASA GO OK! project, from wild-caught Aedes albopictus mosquitoes from several counties around Oklahoma. Aedes albopictus mosquitoes are common vectors of flaviviruses such as West Nile virus, Zika, chikungunya, and yellow fever virus and pose an acute threat to global health. We first scanned the mosquitoes for insecticide resistance using an internal control primer, actin. To test for the allele-specific knockdown resistance (kdr) gene, we created a melting curve analysis that tested for an overall result of insecticide susceptibility or resistance. Additionally, we isolated the nucleic acids from each mosquito and used RT-qPCR and an allele-specific primer, G-block, to target the NS5 region of the DNA strand to genotype and detect any flaviviruses present in the Aedes albopictus. Our data suggest that the lab-reared Aedes albopictus are highly susceptible to insecticides and could become vectors of flaviviruses through contact with external factors. These results highlight the growing importance of arboviral surveillance and control efforts to conserve and improve public and global health.

July 30, 2020 - 9:15 AM PDT Breakout 7: Engineering Poster Session D

SEBASTIAN ARCEO
Loyola Marymount University
The MyStudies App as an NTD Clinical Trial App

Medical research institutions conducting in-person Neglected Tropical Disease (NTD) clinical trials fund transportation costs for participants traveling to/from their research institutions. Portions of the NTD clinical trials can be conducted remotely using mobile phone applications, reducing transportation costs. To investigate how a mobile phone application can enable remote NTD clinical trials, this research project aimed to 1) identify whether the FDA MyStudies App, an open-source mobile phone application, can be configured to facilitate remote NTD clinical trials, and 2) identify how NTD clinical trial forms and clinical trial data within the medical record system, OpenMRS, could receive data from the MyStudies App. The research identified which MyStudies App features must be configured using the web configuration portal and storage environment of the MyStudies app platform. The scheme of two NTD clinical trial forms were set up based on user requirements from the researchers conducting the trials. Next steps include comparing the data models of MyStudies and OpenMRS, as well as investigating and implementing protocols for data integrity and security.

MOUSHUME HAI
Kean University
Digital Image Processing in Photography

Image processing is a branch of study in Computer Science that involves computational algorithmic analyses of both analog and digital images. Image processing is useful when there is a need to enhance images or extract useful information from them. This technique is used in facial recognition, remote sensing, fingerprint detection, microscope imaging, and more. Image processing allows a user to acquire, process, and analyze images and videos for algorithmic development and system design. Furthermore, photographic analysis software is used to enhance images to encode, transmit, and decode its digitized data. In this project, we will take photos of various objects and then use image processing tools to visually enhance them and extract pertinent visual information. Also, we will work with multiple image analysis software tools to help us analyze and improve our previous Lidar images taken with a 3D Lidar-lite scanner.

KIET LUAN
The University of Texas at Austin
The Search for a more Cost-effective Nitrate Reduction

Nitrate (NO_3^-) is one of the most common contaminants found in groundwater. The Contaminant seeps into the subterranean water from wastewater systems, agriculture, and other human excremental activities. Since NO_3^- is converted into a toxic compound within the to the human body, it renders the consumption of groundwater impossible. Current solutions to denitrify groundwater through biological methods and ion exchange have unique drawbacks. Catalysis presents an alternative to these, though palladium is quite costly prompting studies into more cost-effective catalysts for nitrate reduction. Researchers have previously studied PdxAu100-x nanoparticles (NP) and PdxAg100-xNPs as candidates for nitrite (NO_2^-) reduction catalysts and have shown that both have a marked increase in activity over similar PdNP catalysts. Herein, we will further our understanding of both PdxAu100-xNP and PdxAg100-xNP by coupling it with an indium (a promoter metal) to analyze the reduction of NO_3^- into the favorable nontoxic nitrogen gas (N_2). The alloyed nanoparticles will be synthesized using a microwave-assisted method, before being characterized to confirm random alloying. The activity of our PdAuNP/In and PdAgNP/In catalysts will be analyzed by monitoring the decomposition of NO_3^-, the formation of intermediate species (like NO_2^-), and the selectivity to N_2 or ammonia (NH_3) as the product.

Abstract titles link to event detail pages.

EMMA VAN HOOGMOED

Stanislaus State University

Teaching Robots Biologically Inspired Tasks

Biological beings have been an inspiration to robotics for a long time. Schema theory was crafted as a way to break down the world into smaller pieces. Computer scientists have taken this to translate the world into programmable pieces. Walter's tortoises were the earliest example of biologically inspired robots, and many considered them to be the first artificial lifeforms. Michael Arbib sought to improve biological robotics and create the Rana Computatrix. My project aims to expand on Walter's and Arbib's contributions by adding a neural network to teach a robot biologically inspired tasks. To do this, we will use a Jetbot that is designed by NVIDA.

July 30, 2020 - 9:15 AM PDT Breakout 7: Psychology and Cognitive Science Poster Session E

MUKADAS ABDULLAH
University of Wisconsin-Madison
Mental Health of First-Generation College Students of Middle Eastern Descent

For the past 40 years, there has been an influx of immigrants from the Middle East as a result of civil unrest and in hopes of better opportunities. What is not discussed is the mental health of immigrants who reside here in the U.S.Studies show that immigrants and their children experience stressors from their resettlement that increase the development of mental illness. When these children become young adults and attend college, they take on another change that is stressful, as research shows that college students experience mental disorders. Research shows that negative attitudes, stemming from cultural stigma experienced by Middle Eastern college students prevent them from seeking treatment. This study assesses the mental health of college students who are Middle Eastern, through respondents answering questionnaires. Respondents answered questions about their first-generation college student and low-income status, as well as questionnaires about Anxiety and Depression. Respondents answered questions about their treatment-seeking behavior and their views on mental health as well as treatment for mental disorders. I hypothesized that respondents that indicated being first-generation and low income will be more likely to have mental disorders and less likely to have sought treatment than those who were not first-generation and low-income. These results show the importance of looking at this vulnerable population, and how significant it is to bring awareness and educate providers on the factors that influence the lack of treatment-seeking by this group. This work would add greatly to the body of knowledge as research on this population is minimal.

CAMILLE GRUNDY
Loyola Marymount University
Older LGBT Adults and Higher Education

The homophobia and ageism that older LGBT adults experience limits the areas in their lives where they feel supported. As a health disparate population, higher rates of mental and physical health problems such as depression, anxiety, and cardiovascular disease along with feelings of loneliness makes older LGBT adults a population of high social need. The purpose of this study is to understand how experiences in higher education shapes the social contexts that influence the social, physical, and mental health experiences of older LGBT adults. This study uses data from 21 face-to-face interviews with self-identified LGBT older adults, which is a Los Angeles sub-sample of the Caring and Aging with Pride project funded by the National Institute on Aging and accessed through my research mentor. The sub-sample includes 7 black, 7 Latino, and 7 white individuals between the ages of 58 and 88. The data was analyzed using a grounded theory approach where interview transcripts were reviewed extensively, looking for themes to emerge. My findings are that those who had experience in higher education were able to build their support networks while in school and when they got older. Those with higher degrees (masters or Ph.D) were in better financial positions to afford services for support that they needed (i.e, house cleaning, food delivery). Lastly, a majority of those who attended college described their experience as being an important life event.

RYAN ELLISON
Kean University
Relationship Between Student Beliefs and Perceptions of Future Success Among Students at an Ethnically Diverse Institution: A Preliminary Analysis

Student beliefs toward education could potentially be multifaceted. Their outlook on education has been associated with two attitudes or beliefs: abstract (belief in the power that education has in terms of future success) and concrete (belief that education does not guarantee success based on their experiences) (Mickelson, 1990). This study examined whether students of different racial and ethnic backgrounds at a highly diverse institution (Kean University) have similar concrete and abstract beliefs. The context of an ethnically diverse institution was used to examine whether a diverse school community influences the belief systems of students from various ethnic backgrounds. The results indicated that there is no significant difference between the participants of different ethnic groups on abstract beliefs. However, there was a significant difference found between the ethnic groups on concrete beliefs and future outcomes.

Abstract titles link to event detail pages.

TERESA LECHUGA-KANAPILLY
Loyola Marymount University

Resiliency Factors That Influence Latinx Immigrant Youth's Participation in Advocacy Following Trauma

Although the connection between migration and trauma has been researched, few studies have focused on how advocacy is a resiliency factor that may buffer the trauma and violence that individuals experience (Perreira, 2013). Thus, the current study aimed to examine the role of resiliency factors, and more specifically, how Latinx immigrant youth are socialized to begin work in advocacy. In order to understand how the context that Latinx immigrant youth live in may affect their adaptation, the current study used a cultural-ecological framework that takes into account how individual, family, educational, community and cultural surroundings may have an influence on a student's socialization (Kia-Keating, 2011). 75 articles were analyzed using the relevant inclusion and exclusion criteria. Following this strategy, 15 articles were included in the final literature review. Risk factors identified by the articles in this review revealed that family separation, discrimination and socioeconomic hardships negatively affected advocacy involvement. Furthermore, the articles included in this review identified perseverance in the form of academic success as well as a support system consisting of mentors and family as promotive factors that positively affect a youth's participation in advocacy. Findings from this systematic literature review bring to light the various cultural-ecological factors that influence Latinx immigrant youths' individual trajectories. These factors will help various professions including educators, clinicians and researchers better understand the circumstances that may influence Latinx immigrant youth's participation and/or advocacy in certain contexts. Implications for the implementation of social justice theory and opportunities for action-based advocacy will be discussed.

JUANA NIETO
Stanislaus State University

Examining stress among first-generation college students

Stress among college students has become a major issue. Together, subjective and objective stressors have implications on our overall health. Previous research by Welle and Graf (2011) suggests that stress can lead to depression and suicidal thoughts. Further, first-generation students tend to report significantly lower social support, stronger post-traumatic stress symptoms, and less life satisfaction than non-first-generation college students (Jenkins et al., 2013). The purpose of the present study is to explore the differences between first-generation college students and non-first-generation students, and the relationship between objective and subjective stress. It is hypothesized that first-generation college students will experience significantly higher levels of perceived stress than non-first-generation college students. In addition, it is expected to find a positive correlation between subjective stress and objective stress in college students. In this study, 150 college students over the age of 18 or older will be recruited through M-Turk. Factors related to stress will be examined.

Abstract titles link to event detail pages.

July 30, 2020 - 9:15 AM PDT Breakout 7: Psychology and Cognitive Science Poster Session F

SYMONE GELAY
Kean University
Auditory hallucinations within the D/deaf schizophrenia population: Bias analysis within a criminal case.

There has been little research conducted on the D/deaf population and their mental health. Even fewer studies have been conducted on the symptoms the D/deaf experience when they have schizophrenia. Schizophrenia is a psychiatric disorder characterized by psychosis, hallucinations, delusions, disorganized speech and behavior cognitive deficits, and occupational and social dysfunction. The hallucinations that occur can be visual, auditory, gustatory, tactile, or olfactory. It has been reported in some studies that D/deaf individuals who became deaf after birth report hearing voices, but individuals who were born deaf instead experience a hallucination within their mind where there is someone signing to them. Within this project we plan to analyze the already existing literature on the D/deaf population and their experiences with schizophrenia. We also plan on conducting a study where we analyze participants' response to a case study where they are presented with a schizophrenic individual, either deaf or hearing, and see if they will be sentenced to prison or to a mental facility and for how long by the participants. The goal of this research is to measure whether or not there is a bias when it comes to sentencing the mentally ill. By observing and measuring how each participant responds, a clearer understanding of how the Justice System should approach the mentally ill in regard to sentencing and treatment can be quantified and discussed. We hypothesize no difference between defendants but predict a higher sentencing recommendation within a mental facility.

MARINA GEORGE
Kean University
Sexist beliefs of association with narcissism, psychopathy, and Machiavellianism

A researcher is interested in examining the relationship between gender, race, and sexism. They would like to know if gender and race play a role in determining the probability of sexism personality traits. It was hypothesized that women would experience significantly more sexism than men. It was also hypothesized that males would score significantly higher on the psych 4230 sexism scale than women. A total of 250 students were randomly selected from a local University in New Jersey. All participants were divided into two groups based on their gender. All participants were given a psych 4230 sexism scale and asked to complete the assessment. This study found that women tend to experience significantly more sexism than men. This is because we live in a male dominant society. The degradation of women has been ongoing and procedures such as FGM was eliminated in most countries over the years. Certain jobs will hire men over women because they feel men can do a better job even though women possess the same skills to complete the job. A factorial ANOVA revealed a significant difference between gender, race, and sexism.

KAILYN DEAVENS
University of Colorado, Denver
Severe Pediatric Traumatic Brain Injury: Prevalent Causes, Symptoms, Brain Dysfunction, Impact, Treatment, & Prevention A Systematic Review

Traumatic Brain Injury (TBI) is a form of an acquired brain injury that occurs when a sudden trauma causes damage to the brain. TBIs can result when the head suddenly and violently hits an object, or when an object pierces the skull and enters the brain tissue. Pediatric traumatic brain injury (pTBI) within children is the leading cause of death and disability in children ages 0–4 years and adolescents ages 15–19 years and is seen as a public health concern and burden. It is estimated that 145,000 children and adolescents (ages 0–19 years) are living with lasting cognitive, physical, or behavioral effects of a severe TBI. These adverse effects can presume a shorter lifespan and an early death. This is also seen as a reason why this specific TBI does display a high significance in the pediatrics' morbidity and mortality. This research is of importance due to the fact that our younger population is much more effected by this and as the youth being our future their must be more research done to keep our community aware and finding solutions to resolve the problem. Finding research articles through my university's library the Auraria library and websites will help conduct and correlate research to have credible evidence This systematic review intends to find the most accurate causes, symptoms, diagnosis, brain dysfunction, impact, treatment, and prevention of severe pTBI to one day have plan for a future of approaching, preventing, and having with less pTBI cases.

Abstract titles link to event detail pages.

LOURDES RAMIREZ
Stanislaus State University
Advances in Forensic Anthropology: Human Identification

This research assesses the newest methods of human identification in a global context, specifically phenotype identification, computer facial reconstruction, and bone histology. It considers the limitations of these techniques and the training of professional forensic scientists in different countries. It offers a comparative examination of methodologies that highlight natural and humanely produced events requiring the application of human identification techniques.

CHELSEA WILLIS
Wayne State University
The Role of Resources in Moderating the Association Between Maternal Mental Health and Child Mental Health in Military Families

An abundance of research has established that active-duty military service results in poor psychological health for a substantial percentage of our Service Members, resulting in the development of a large number of supportive programs dedicated to these individuals. The mental health of military spouses and children, however, has been left largely unobserved. Service Members' deployments result in homefront spouses managing the tasks of raising a family and running a household all on their own for long periods. Homefront spouses must also endure the prolonged separation from their partner; a time of which is no doubt spent in part worrying for their Service Member's safety. This research poster demonstrates the role of homefront spouse's stress and its impact on depressive affect and symptoms on child well-being. The current study will look at corresponding literature and examine the relationship between maternal mental health, child mental health, and the utilization of mental health resources in military families. Based on this analysis, this poster also reviews the support services available for military families and makes a proposal that addresses core findings. This research is vital as it could lead to supportive programs and build a larger awareness of the impact of military deployment and affiliated military lifestyle on the broader military family beyond the Service Member.

Abstract titles link to event detail pages.

July 30, 2020 - 9:15 AM PDT Breakout 7: Sociology and Public Affairs Poster Session G

JARVIS DE LEON
Southern Nazarene University
Social Identity, Legality, and Immigration: The Effects of House Bill 1804 on Hispanic or Latino Communities in Oklahoma

This article examines the intended and unintended effects of Oklahoma House Bill 1804 toward the Hispanic community of Oklahoma. The law makes it a felony to shelter, harbor, and transport any undocumented immigrant. It also restricts undocumented immigrants, including infants, from using public services such as health care and education. This law was created in an effort to stem undocumented persons in the State of Oklahoma. This mixed methods study of the impact of one immigration law consists of collecting quantitative and qualitative data from Oklahoma newspaper articles and journals, peer reviewed scholarly articles, and empirical and data-driven evidence from Southern Nazarene University's private database. The article introduces identity formation and legality as theories. The findings demonstrate that H.B. 1804 created negative stereotypes and strong animosity toward the Hispanic community, shaped an atmosphere of suspicion and bigotry, created unintended consequences toward many Oklahomans who are citizens, and created economic hardships within the State. The theories will be applied to H.B. 1804 and it will demonstrate its relationship with the creation and outcome of the law. The case strongly suggests that unintended consequences can be far more counterproductive than the intended instrumental goals of a law and that law has the ability to construct unwanted social identities.

EDUARDO GAYTAN-GOMEZ
Loyola Marymount University
Comparative Immigration Policies in the Developed World

In recent times, immigration to developed countries has greatly increased, and in response to this influx, developed countries have implemented more stringent immigration policies. This is most evident in deportation. While deportation has long been a practice of many developed countries, it has only recently fallen under the global spotlight. This is due to a shift in the way deportation is practiced, with it increasingly criticized as a human rights abuse. Why are developed countries adopting more abusive deportation policies? While scholars point to the (perceived) economic impact of immigrants, increases in nativism, and the use of deportations as a deterrent, I contend that developed countries have changed their deportation practices, from largely targeting those with criminal histories to those who are more established or otherwise innocuous. Using the most different system of design, which is the analysis of two countries that are radically different but share one explanatory variable and the outcome variable. I find, through an examination of Norway and the United States, that the driving force behind this shift in deportation policy may be attributed to the rise of right-wing populism. Right-wing populist leaders represent their constituents' anti-immigrant preferences by implementing sweeping deportation practices.

SARAH HALE
Baylor University
Authenticity and Virtue in Political Discourse

Although emerging research reveals a link between virtue and the feeling of being who one truly is (i.e., subjective authenticity), it has not been integrated with virtue theory in philosophy. Philosophers might even question whether existing social psychological measures of virtue accurately capture virtue as a virtue theorist would recognize it. This project addresses this limitation by employing an innovative method to assess the expression of civic virtue. A total of 248 college aged participants responded to purported social media style posts and comment threads about various partisan topics. Participants' narrative responses to these threads were recorded and coded for the expression of civility based on a coding scheme developed by psychologists and a virtue theorist. After each post, participants completed a measure of state authenticity. We hypothesized that participants would feel more authentic following "posts" that expressed greater civility. Results instead pointed to uncivil political discourse leading to authenticity. This suggests that links between authenticity and virtue expression may be different than what current literature suggests, which would be due to methodology.

Abstract titles link to event detail pages.

BARBARA VELASCO
Loyola Marymount University

The Enacted Environment and the San Fernando Swap Meet

In cities where there is a growing Latinx population, it is important that urban planners are culturally sensitive to the needs of the communities they serve. As urban planners seek new ways of developing, many turn to the principles of New Urbanism as defined by CNU, e.g., diverse land uses, walkability, connectivity, and improvement of quality of life. Scholars have characterized Latino Urbanism as sharing various properties of New Urbanism with an added emphasis on adaptability to the needs of immigrants and working-class folk. The San Fernando Swap Meet (SFSM) is an outdoor marketplace that is set up and taken down on select weekdays in a 16-acre lot in the Northeast San Fernando Valley, whose patrons and vendors are predominantly low-income and Latinx. The purpose of this project is to explore how vendors and patrons of the SFSM transform an empty lot into a unique urban space that is beneficial to them. Swap meets are an understudied site within the field of Urban Studies. This project builds upon the concept of Latino Urbanism and uses J. Rojas' framework of the Enacted Environment to contextualize how Latinxs create exterior urban spaces to become useful to them. Data was gathered from field site visits to the SFSM and semi-structured interviews with vendors. The results of this work show that patrons and vendors create the San Fernando Swap Meet to be one that provides class solidarity, a sense of freedom, and opportunities for economic mobility and building networks.

July 30, 2020 - 10:45 AM PDT Breakout 8: Anthropology, Gender and Ethnic Studies Panel A

MIA GLIONNA
University of California, Los Angeles
The Fall Off: Examining the Image-Making of Female Rappers from 2003-2010

This project will examine the decline in the commercial success of women's rap music from 2003-2010. Between Lil' Kim's La Bella Mafia (2003) and Nicki Minaj's Pink Friday (2010), there were no female rap artists who went platinum (RIAA). This decline corresponds with an era of increased public scrutiny of female rappers amidst the rise of digital media. My research examines how Black women rappers' public images were constructed through 2000s media. With an intersectional approach, I aim to examine factors that influenced and/or limited Black women's participation in the rap music industry. Employing a Black feminist lens, I will analyze a variety of hip hop magazines throughout the 2000s (Collins, 1990). I hypothesize that visibility, representation, and public perception play a major role in the financial success of musical artists, so I will pay particular attention to the visual and literary representation of women in photographs, advertisements, interviews, and other magazine content. I employ media analysis in an attempt to provide further insight into the connection between mass-produced imagery and the commercial success of Black women rappers. In an increasingly digitized world with more access to media than ever, it is important to understand the racial and gendered impacts of media representation and public image. By examining this in magazines, I hope to lay a foundation that can be expanded into more research on digital media in the future.

JUANITA IHEANACHO
University of California, Santa Barbara
Sisterhood: Black Feminism and the Function of Spaces for Intersectional Activism

Black women in America exist at a crossroads of intersectional labels, the marginalized identities of blackness and femaleness. As a result, Black women have historically been expected to choose between their blackness and their femaleness in times of social change and political activism, placing them in a "double bind." Subjected to sexism in male-dominated Black spaces and racism in white-dominated female spaces, Black women organized to create spaces of their own in order to pursue social change with their unique needs in mind, away from double discrimination. This project analyzes the ways in which Black women utilized sisterhood and community to cater their activism towards their specific systemic needs. In order to gain a better understanding of how spaces tailored to Black female identity allowed community to flourish amongst Black feminist activists, this project analyzes the legacies of Black feminist groups that emerged from the Civil Rights Era such as the Combahee River Collective, a 1970s Black feminist lesbian organization. In addition, published interviews with Black female activists are analyzed. I consider the works of key Black female authors in order to compare the rhetoric that surrounds Black women's shared consciousness. This project also considers scholarly publications that emerged during the transitional period from the Civil Rights Era into Second Wave feminism. Ultimately, this project aims to understand the function that community and sisterhood have served for Black women in times of political activism, and the purpose it can continue to serve in light of the Black Lives Matter movement.

CALI VAUGHN
Bowling Green State University
Much More than Just Hair: Understanding the Meaning of Natural Hair for Black Women

This study examines the relationship between the contemporary Natural Hair Movement and the politics of Black women's hair. "Political" here means relating to the perception, use, and resistance to power; more explicitly, for the purpose of this study, political is defined as having to do with racial identity and the power of race in American society. The study addresses the following research questions: 1. What motivates Black women to wear their natural hair, despite mainstream society's negative perceptions of and discrimination against natural Black hair? 2. How does the contemporary Natural Hair Movement double as a political protest? 3. What political statement(s) is the movement making through this protest? To answer the research questions, five different online communities (two blogs, two forums, and Twitter) were examined in a netnographic qualitative study. Data from these communities was coded into categories 1-5 that are based on the Multidimensional Model of Racial Identity (MMRI). Data collection is complete and undergoing analysis; results are pending. Hypotheses are: 1. Black women who participate in the Natural Hair Movement will see their hair as a political statement. 2. Natural hair within the Natural Hair Movement will serve as a statement of Black liberation.

Abstract titles link to event detail pages.

July 30, 2020 - 10:45 AM PDT Breakout 8: Biology Panel B

JADA CARTER
California State University, Monterey Bay
Genetic Variation Underlying Salt Stress Response in Oryza Glaberrima

The now orphaned African rice, Oryza glaberrima, was a staple in sub-Saharan Africa until the debut of fast-growing, high-yielding Asian rice (O. sativa). However, as climate change rapidly alters the agricultural landscape, rising sea levels present a growing threat to coastal paddies. Here, we aimed to assess glaberrima's resistance to changes in salinity as well as examine the genetic component of its stress response. A rice panel of 171 O. glaberrima varieties was grown in a diurnal, tropical, hydroponic system with a control group and salinity treatment groups. We monitored chlorophyll content, the 'greenness' of the plant, as a proxy for energy production. We also counted the number of leaves on each plant over time and calculated leaf initiation rates to measure this energy decrease giving us insight into the repercussions of salt stress at later developmental stages. Results show that within the salt treatment group there were several varieties displaying a yellow leaf phenotype consistent with a decrease in the number of chloroplasts per unit area. The subsequent decrease in chlorophyll content resulted in a decrease in the photosynthetic products thereby decreasing the overall energy produced by the plant, causing them to yellow and eventually die. From there, we generated a genome-wide polymorphism data set for our rice panel to perform a Genome-wide Association Study (GWAS), searching for the regions of the genome responsible for genetic variation associated with salinity tolerance. Our results will highlight the genetic variation underlying abiotic stress tolerance for breeders and plant scientists.

DANIEL HOLGUIN
Texas Tech University
Geometric Morphometric Analysis of the Sb-c Elements of Dapsilodus obliquicostatus

This project will track morphological features, or landmarks, in a collection of the Sb-c elements of the conodont species Dapsilodus obliquicostatus. This will determine if the variable morphology of the species represents a physical change over time in a single species or if the collection is composed of two unique species. Dapsilodus obliquicostatus is unique in that while it is represented entirely by coniform elements, which are typically ignored as viable index fossils for their lack of complex morphology, it shows significant physical variability. Of the documented samples in the collection, one group exhibits a noticeable curvature to their form while the other group does not. In order to more precisely observe and quantify these differences in morphology, geometric morphometrics will be used to analyze the sample sets. This method requires a large sample size in order to produce significant results, which will be provided by Dr. James Barrick of Texas Tech University and Dr. Bradley Cramer from the University of Iowa. If a separate species is found, it may prove to be useful in correlating rock units with low biodiversity that typically only yield coniform elements. Furthermore, this study is one of the first of its kind to be performed on coniforms and could open the door for further research in similar conodont species that are represented entirely by coniform elements that show a subtle shift in morphology over time.

ROSA MENDEZ ORTEGA
Westminster College
Regulation of Chaperone-Mediated Autophagy by Pharmacological Activators and Inhibitors

Our body has clearance mechanisms which constantly function to eliminate harmful and disease-causing proteins. Chaperone-Mediated Autophagy (CMA) is one pathway that can selectively target disease-causing proteins for their removal from the cell system. CMA is very specific and only clears proteins with a "KREFQ" amino-motifs, Hsc70 bind to the motif and takes its to LAMP2A which is like a door to the lysosome where proteins get cleared. Upregulating CMA was shown to be beneficial against various pathological conditions like hepatitis B, neurological diseases and more recently CMA has been linked to COVID-19 pathology. A major limitation in the study of CMA is the lack of appropriate tools to monitor the pathway. The goal of the present study was to identify potential CMA activators and inhibitors with a potential for future clinical application. The two main components of CMA, Hsc70 and LAMP2A, were targeted to manipulate the pathway. While CMA activators (S14G) are known to increase protein uptake in the lysosomes by stabilizing LAMP2a, the inhibitors (VER-155008) are known to block Hsc-70 function. Human Aortic Endothelial Cells (HAEC) cells and rat ventricular cardiac cells (H9c2) cell line were used to determine the optimal dose and concentration of the CMA altering agents. Treated cells were collected and proteins concentration was normalized, to perform a Western blott. According to the raw data there is an increase of LAMP2a levels in H9C2 cells treated with S14G and a decrease when treated with VER-155008. HAEC cells treated with S14G show an increase of Hsc70 levels

Abstract titles link to event detail pages.

July 30, 2020 - 10:45 AM PDT Breakout 8: Communication, Economics and Geography Panel C

JIMOH ABDULWASIU
Northeastern Illinois University
Most Used Communication Modules (Protocols) in Home Automation

The home automation system (HAS) refers to the technology that allows our smart devices to be controlled remotely using different communication protocols. There are many communication protocols in the market today, ZigBee, NFC, Z-wave, Bluetooth, and WiFi. Each of these protocols have their pros and cons. The Bluetooth and Near Field Communication (NFC) protocol are widely used in our everyday lives; for instance, a smart home helps us to monitor and control our homes and office gadgets like light bulbs, garages, doors, office security systems, and kitchen appliances. Understanding what protocols to choose from in terms of its purpose, and its security becomes a necessity. Most existing protocols have been detected to have security issues. Having our smart devices protected from bad actors is a must in the field of Internet of Things (IoT). The objective of this survey research is to explore the two most common protocols used in IoT. To do so, we feature Bluetooth and near field communication protocols used in IoT and home automation systems. The investigation will focus on the architecture of both communication protocols and the security problems associated with the confidentiality, integrity, authentication, and availability of data. This research hopes to explain the best practices for mitigation of these security problems.

AALEYAH LEWIS
University of Maryland, Baltimore County
Conflict Mediation at Scale: Leveraging Big Data to Mediate Online Conflicts

Conflicts frequently occur in online discussions, with consequences ranging from moderate to detrimental for both the individuals and online community. Reddit, the self-proclaimed front page of the internet, has over 330 million active users globally that participate in an array of discussions. Conversations among individuals with competing views often turn hostile, and Reddit moderators must intervene by banning users or censoring posts. While simple and effective, these approaches fail to address the problem until it is too late. This project aimed to detect and mediate online conflicts between Reddit users early on by developing a data-driven application. The project is comprised of three components: detection, intervention, and validation. We used natural language processing (NLP) to sense nuances in the language that are indicative of impending conflict by looking at previous posts and analyzing the linguistic cues. We then labeled the comments in the discussion with running averages and mapped the trajectories of the discussion. When impending conflicts are detected, we decisively facilitated intervention through the development of a politeness language generation model to recommend users with less offensive language to use during the discussion.

FIDEL LOPEZ
University of California, Santa Barbara
Implications of Varying the Objective Probability Distribution Within the Two-Jar Ellsberg Paradox

Various decision experiments which violate the axioms of subjective expected utility theory (SEUT) have been studied in the past; this study deals with such decision experiments. In particular, we work with the Ellsberg paradox. We create two variations of the two-jar Ellsberg paradox that differ only in the objective probability distribution of the known jar. We do so with the intent of testing our hypothesis: as we move away from the objective probability distribution found in the two-jar Ellsberg paradox, subjects will behave in a manner more consistent with SEUT, and in particular, more consistent with the sure-thing principle. We worked with a hypothesis test for independent proportions and $\alpha = 0.05$. Our results were statistically significant and, thus, we were able to confirm our hypothesis. Our findings suggest that the Ellsberg paradox may not be as detrimental to SEUT as previously thought. Instead, we propose that the Ellsberg paradox is simply a very specific scenario under which SEUT fails to predict decision-making behavior.

July 30, 2020 - 10:45 AM PDT Breakout 8: Education Panel D

JULIO MENA BERNAL
University of California, Los Angeles
Understanding Existing Mental Health Disparities within Latinx Students and its intersection with COVID-19

Research has shown that Latinx students suffer from higher levels of anxiety, depression, isolation, and experience greater psychological distress compared to their white counterparts (Del Pilar, 2009). Additionally, the stress Latinx students face within higher education often hinders their academic adjustment and participation within the university (Del Pilar, 2009). Currently, Covid-19 has forced abrupt changes and even the closure of many institutions of higher education, directly impacting the educational experience of all students. The pandemic created sudden changes in curriculum, employment, and created an uncertainty for many students' futures, all of which relate directly to their mental well-being. However, Latinx students, being disproportionately affected by additional adverse social, economic, and mental health issues challenges, are especially vulnerable during these circumstances. This study will explore the ways in which COVID-19 has affected the social, economic, and mental well-being of Latinx students in higher education. Specifically, this project aims to explore the mental health disparities Latinx students faced prior to the pandemic and how the pandemic has affected their day to day lives in an attempt to inform ways to properly address the needs of Latinx students in higher education. This study employs a mixed-methodology including semi-structured interviews, surveys, and photo journals to document the social, economic, and mental health hardships during the pandemic. Project implications include advocating for additional support from higher education institutions towards students of color to address the disparities in educational equity.

MCCAYLA PARTIAN
Winthrop University
Campus Mental Health Services and Student Needs in COVID-19

There has been an increased rate of utilization of campus-based mental health services among college students. While this overall trend is noteworthy, disparities exist in terms of quality and quantity of campus-based services. Some of these differences are linked to the overall socioeconomic status of student populations. The outbreak of COVID-19 has compounded these issues. Recent research surrounding the Coronavirus pandemic suggests that the stressors involved, particularly for college students, may elevate and alter their need for mental health services. Additionally, there are disparities in terms of who is most affected by the pandemic, with populations based on race, class, and gender being most at risk. Through random cluster sampling of institutions within the six regional accreditation bodies of the United States, this study explores the ways in which colleges and universities are meeting the mental health needs of students during COVID-19. This paper discusses this secondary data analysis, based on information obtained from institutional websites, kinds of mental health services, access to these services, and provisions and availability during COVID-19. The results highlight the disparities of mental health services, based on sociodemographics of student populations, and how these disparities have worsened during the pandemic. This information will help to inform further development and expansion of mental health services in response to the pandemic, in preparation for future crises in public health, and in attention to diverse and vulnerable students.

JULIA ROSALES
University of California, Santa Barbara
The Effect of the Academic Calendar on Students' Mental Health

The typical onset for life long mental disorders occurs around ages eighteen to twenty-four, the characteristic age range of most United States college students. While extensive studies have conclusively correlated elevated levels of mental health disorders amongst college students, the contributors to mental health disparities amongst this age range and their effects on college students remain vastly understudied in economics literature. This study looks at mental health variations across United States four-year universities using the Health Minds Study. Utilizing ordinary least squares regression models, we hypothesize that variations in the level of mental health disorders amongst students will be attributable to campus-specific characteristics, such as being on a quarter or semester system. Ultimately, this study will allow for better understanding of mental health amongst the college aged population which can potentially lead to earlier intervention strategies. Additionally, it will offer a starting point for future research looking into the best possible programs and policy options to improve mental health for student populations. Future research may also find it useful to utilize longitudinal data on this topic.

Abstract titles link to event detail pages.

July 30, 2020 - 10:45 AM PDT Breakout 8: Engineering Panel E

DANIELA SALDATE
University of Nevada, Reno
Melt Quenching of Zirconium using molecular dynamic simulations

Zirconium (Zr) is a malleable metal that is highly used in corrosive environments due to its mechanical properties. It is used in jet engines, water-cooled nuclear reactors, chemical processing equipment, and many other applications. As developments in corrosive fields advance, so does the demand for the enhancement of zirconium's mechanical properties. Zr alloys are commonly formed by casting and solidification. As a result, understanding the phase transformation and crystalline structure evolution of Zr during the solidification process will be important and can lead us to enhance Zr mechanical properties. However, an in-situ study of these structure changes is difficult in experiments. Therefore, in order to better understand the structure evolution in this research, we use Molecular Dynamics (MD) simulations. In this study, we also focus on the plastic deformation behavior of melt-quenched Zr, and how the structure varies under the different loading conditions. Moreover, the changes in the stress-strain curve due to the activation of different twinning modes and dislocation activities will be carefully examined during the simulations to widen our knowledge about the Zr mechanical properties. The MD simulations in this study are being performed by the LAMMPS Molecular dynamic simulator and the OVITO software has been employed to visualize and analyze the structure evolution during the solidification and deformation process.

JACQUELYN TOLTH
University of New Mexico
Electrodeposition of Zinc Metal Batteries

The hydrodynamic and morphological instabilities that cause dendrite growth prevent metal batteries to obtain large-scale electrical storage. There have been environmental concerns about the consumption of fossil fuels which causes climate change due to excess amount of carbon dioxide. Therefore, alternative renewable energy sources become more desirable. Current studies have demonstrated that the method that prevents the growth of dendrites and improves cycling stability is by using a viscoelastic electrolyte that is composed of high molecular weight polymer with lithium metal batteries. Our research will help further understand how to prevent microcircuits, dendrite formation, and over limiting conductance in ion selective membranes within zinc metal batteries instead of lithium metal batteries. This experiment analyzes the effect that dendrite growth has on ionic conductivity and electrodeposition by: (1) creating the viscoelastic electrolyte. (2) using an EC READER to calculate the transference number. (3) monitoring dendrite growth using a microscope. Moving forward, certain factors to consider is the integration of elastic additives to minimize strain effects on the solid electrolyte interface due to volume expansion.

MAX WIN
University of California, Davis
Machine-Learned Interatomic Potentials for Na-intercalated Ge-Se Chalcogenide system

Li-ion batteries with polymer-electrolytes, which are the current industrial standard, still have several disadvantages related to costs, safety, and materials' availability. Due to the chemical availability and cost of sodium, it would be desirable to develop a sodium-based alternative. Ge-Se chalcogenide glass-ceramics have been demonstrated as promising solid state electrolytes in sodium-ion batteries and phase change materials [1]. The complex chemistry and structural heterogeneity of amorphous GeSe derivatives are hardly described by empirical potentials thus need to be described by first-principles modeling [2]. However, first-principles simulations involve high computational costs and cannot scale to the size and time scales necessary to characterize the functional behavior of this material, thus requiring a multiscale approach. In this study, we overcome the size and time scale limitations of ab initio molecular dynamics (AIMD) while preserving the accuracy through Chebyshev Interaction Model for Efficient Simulations (ChIMES) and Spectral Neighbor Analysis Potentials (SNAP) potentials [3,4]. Comparisons of these machine-learned potentials to our initial AIMD simulations of liquid Ge-Se systems reveal their viability to describe the complex chemistry of these materials. This study will serve as the basis to characterize amorphous Na-intercalated $GeSe_2$ and predict its ionic conductivity at various conditions.

[1] Kim et al, Chemistry of Materials 2014, 26, 5695-5699.
[2] Massobrio et al, Physical Review B 2001, 64.
[3] Lindsey et al, Journal of Chemical Theory and Computation 2017, 13, 6222-6229.
[4] Thompson et al, Journal of Computational Physics 2015, 285, 316-330.

Abstract titles link to event detail pages.

July 30, 2020 - 10:45 AM PDT Breakout 8: Engineering Panel F

ZOE ERICKSON
University of Nebraska–Lincoln
An increase in the expression of glycolysis related genes correlates to developing Preeclampsia

Preeclampsia is a rare disease which affects around 200,000 women in the United States each year. This condition affects pregnant women, and is typically characterized by high blood pressure and protein in the urine, but on some occasions, no symptoms will be present. This disease can cause serious and potentially fatal complications for both the mother and baby, as it often requires premature labor induction. In this study, we examined the expression profile of metabolic gene transcripts in placental samples from patients both with and without Preeclampsia. We hypothesize that since glycolysis is the main source of energy for cells, we should see a change in expression for genes in the glycolytic pathway. We found that there was a significant upregulation for these genes for diseased samples. This suggests that these genes may be a maker for early detection and treatment of Preeclampsia.

ISABELLE LINARES
University at Buffalo, SUNY
Improving Post-Stroke Rehabilitation Compliance with mRehab: A Mobile Rehabilitation System

Up to 75% of stroke survivors experience upper limb impairments that may contribute to decreased strength, bone density, and quality of life. Therefore, successful rehabilitation interventions are essential for recovery of maximal functional capacity and incorporation of the affected limb into daily activities. Home exercise programs are widely used within clinical practice because it is impractical for a therapist to directly supervise rehabilitation efforts long-term. Adherence to home programs is a significant problem, however, with non-adherence levels as high as 50%. To address this issue, connected health technologies, such as mRehab, can support an individual's ability to self-manage their recovery, further improving adherence and the patient's long-term health. mRehab, developed in 2017, is a mobile rehabilitation system consisting of a smartphone app integrated with 3D-printed objects that simulate twelve daily activities, such as turning a door knob or sipping from a mug. The app provides performance-based feedback for each task, allowing the individual to track their progress. Eighteen individuals with chronic stroke participated in a six-week home program in which the mRehab system was used based on a suggested regimen. The purpose of this study is to further understand user compliance with the mRehab system by visualizing data from study participants in a calendar format across the six-week program. Investigating patterns among the participants, activities, and performance metrics can inform further iterations of the mRehab system in order to improve user compliance and in-home rehabilitation outcomes.

ALEXANDRA REED
California State University, Long Beach
Collagen-Based Scaffolds for Muscle Regeneration

Traumatic injuries can cause volumetric muscle loss (VML), where such large amounts of tissue are lost that a muscle cannot repair itself. This significant loss of muscle leads to impaired skeletal muscle regeneration and disability. These muscular defects cause poor functionality, demonstrating a clinical need for a regenerative standard of care. The purpose of my research is to examine different examples of collagen-based scaffolds and how they contribute to the treatment of VML. Designing a robust collagen scaffold allows us to engineer the scaffold to promote cell growth and maturation, which leads to expedited muscle repair. Here, I reviewed the literature regarding different methodologies applied to collagen scaffold design, as well as the limitations. Collagen-based scaffolds demonstrate better results when supplemented by other factors related to muscle growth like growth factors or other biological components. Many of the scaffolds showed promise in vitro and with further investigation, there is a possibility for in vivo success. Some of the challenges encountered were lack of stability for in vivo application and lack of functional assessment post-implantation. In our lab, we are working on creating a collagen-based scaffold that supports muscle growth and fiber formation where I plan on investigating these challenges further.

Abstract titles link to event detail pages.

July 30, 2020 - 10:45 AM PDT Breakout 8: Psychology and Cognitive Science Panel G

KAEVYN MAPLE
Texas Tech University
Affect and Protective Factors amongst African-American Female Juvenile Offenders

The following project seeks to examine the relationship between affective disorders, like depression, and protective factors in African- American female juvenile offenders. There has been an increase in the incarceration of female offenders in the U.S., especially for African American girls. Despite the obvious need for resources and attention of this population, there is a lack of representation of African American female juvenile offenders in research. This is problematic because previous research shows that incarcerated girls report higher depressive symptoms than incarcerated boys. (Johnson et al.) To explore this topic, the project will be completed using the Positive Achievement Change Tool (PACT) data from Southeast Texas. The Positive Achievement Change Tool (PACT) is a risk assessment measure designed to assess for a youth's overall risk to re-offend and rank-order criminogenic needs/dynamic risk factors (Baglivio, Epps, Swartz, Huq, & Hardt, 2014). The data will be analyzed using statistical analysis in M-Plus statistical software. I hypothesize that girls with more protective factors will have fewer depressive factors and will not show symptoms of affective disorders. Furthermore, girls with more protective factors will be less likely to recidivate.

KAI CLEMONS
Kent State University
Through a Black Lens: An Exploration of Media Images and the Acting White Accusation

There is an abundance of stereotypical media images of Black women that carry immense amounts of negative connotations to them. The media itself plays a severe role in shaping the ethnic identity of oneself. Black adolescent girls can be highly susceptive to these media images as it can contribute largely to their perception of self and potentially influence their behavioral expectations in society. Moreover, Black adolescent girls are often vulnerable to receiving vast sums of peer and societal perusal when it comes to their sense of self. One form of this societal critique is the acting white accusation where several Black adolescent girls report being accused of displaying stereotypically White characteristics from their peers. The current study seeks to analyze the relationship between the acting White accusation and exposure to, appraisal of and identification with media stereotypes of Black women. We examined these relationships in the present study by using The Acting White Experience Questionnaire (AWEQ) and the Black Media Measures Questionnaire (BMMQ) in a sample of Black middle school girls (n=40). We found significant associations between appraisal of Black media images and receiving the acting White accusation, bother associated with the acting white accusation as well as bother intensity. We also found a significant relationship between identification with the Black media images and bother intensity. In the following presentation, we aim to address the significance of the findings to the extant literature.

ALEYAH COLEMAN
University of Wisconsin-Whitewater
Racial Identity and Well being among African American girls and women: A Developmental Perspective

Studies have suggested that ethnic/racial identity serves an important role in the lives of African American women, influencing wellbeing. Further, research has suggested that ethnic/racial identity is a developmental process that unfolds across the lifespan. However, few studies with African American women and girls have examined how racial identity may function across developmental stages as well as potential implications for self-beliefs and psychological well-being. The current study addresses three specific questions: (1) Is there variation in ethnic/racial identity across developmental stages?; (2) Does the relationship between ethnic/racial identity and self-beliefs (general; academic) vary between African American adolescent girls and emerging adult women?; and (3) Does the association between ethnic/racial identity and well-being vary between African American adolescent girls and emerging adult women? Using a sample of emerging adults and adolescents, this investigation examines the relationships among racial identity, self-beliefs, and well-being. Study participants were 122 African American adolescent girls (M= 12.42; SD= 1.07; Range 11-15 years) and 158 African American emerging adult women (M= 21.49; SD= 3.19; Range 18-29 years). Analyses indicated that, while there was no significant difference in the level of racial centrality, public and private regard varied across developmental stages. In addition, results suggest that racial identity, including how they are related to self-beliefs and well-being, may vary across adolescence and emerging adulthood.

Abstract titles link to event detail pages.

July 30, 2020 - 10:45 AM PDT Breakout 8: Sociology and Public Affairs Panel H

CRISLEY ESQUIVEL SARCENO
Our Lady of the Lake University
Improving Public Policy: A Qualitative Content Analysis of Sex Trafficking

Sex trafficking happens around the world and can happen to anyone, regardless of their race, ethnicity, gender, or sexual orientation. Laws have a significant role in sex trafficking, because laws define who is considered a victim, as well as, who is considered a criminal. This research aimed to fill holes in existing literature by addressing the question, "What policy recommendations can be made in Texas to support Latino minors who feel they are being sex trafficked and want to leave the sex industry?" A qualitative content analysis of sex trafficking laws from Belgium, Italy, Spain, the United Kingdom, and the United States was conducted. A grounded theory method was used to code artifacts from public policy documents, as well as, scholarly articles. In addition, part of the methods section was searching for countries that were included in Tier 1 and Tier 2 of the Trafficking in Persons report (TIP). Findings from the analysis of these laws will be used, in conjunction with existing literature on the sex trafficking of minors, to make policy recommendations for Texas. Making new laws or amending laws is essential to improve the identification process of sex trafficking victims. Also, policy recommendations strengthen the implementation of existing policies.

ALEXANDRIA IADANZA
University at Buffalo, SUNY
Barriers to Justice for Victims of Human Trafficking in New York State

Human Trafficking remains a prevalent issue in the United States, often targeting already oppressed communities. Refugee and immigrant communities, unhoused populations, and individuals suffering from substance abuse or mental illness are disproportionately targeted by Human Traffickers who manipulate and take advantage of their vulnerabilities (Polaris Project, 2018). Buffalo NY, as a border city, is especially familiar with human trafficking and has dedicated courts to adjudicate the crime and bring justice to victims. But does the rule of law within our city courts adequately protect victims of human trafficking, or does it criminalize victims for their subjugation? This literary review explores how human trafficking laws may either protect or fail victims who seek justice through the legal system in New York State, while further detailing the implications that this has for Buffalo, New York as a border city.

JENNIFER NADEAU
University of Nevada, Reno
Collaborating to Reduce Food Waste: A Study of Partnerships in Food Policy Councils

Food loss and waste throughout the food supply chain is a growing issue that has significant economic, social, and environmental implications. Wasted food represents lost profits for the food industry, increased food insecurity in communities, and the unnecessary production of greenhouse gas emissions. Due to the large number of stakeholders involved in the food supply chain, as well as the long-term, low-contestability nature of the problem, there is growing interest in addressing food loss and waste through a type of collaborative governance institution called a Food Policy Council (FPC). FPCs engage diverse public and private stakeholders from sectors across the food industry in the collaborative development of programs and policies aimed at improving their local food system. To better understand why some FPCs experience greater success in reducing food waste than others, this study uses survey data analysis and semi-structured interviews to analyze the various types of partnerships developed by local and state FPCs across the U.S. that specifically aim to address food waste issues. Using the theoretical lens of collaborative governance, this study provides new insight into how FPCs can more strategically identify, engage, and maintain partnerships that help them achieve specific policy and programmatic objectives related to food loss and waste.

Abstract titles link to event detail pages.

July 30, 2020 - 12:00 PM PDT Breakout 9: Anthropology, Gender and Ethnic Studies Panel A

YESSICA BERUMEN MARTINEZ
University of Northern Colorado
Assessing Latinx Colorism and Skin Tone Dating Preferences

This study surveyed 165 Latinx participants at a mid-sized university to determine if self-perceived skin color and membership in social groups influenced skin color preferences for romantic partners. The Latinx population in the United States makes up 18% as of 2018, this makes Latinx the "second-fastest-growing racial or ethnic group" (Krogstad & Noe-Bustamante, 2019). Latin American researchers assert that skin color influences your social standings; Influencing income, education level, self-esteem, and other factors. Skin color could potentially influence who Latinx individuals choose to date and marry. Participants completed the In-group Colorism Scale by Harvey, Banks, and Tennial (2017) and answered additional questions on skin tone perceptions on dating, and parent and friend influences. Past research shows that parental influence might be contributing to this ideal of dating lighter skin colored individuals. In this study there is a significant influence from parents on dating preferences in comparison no friend influences is no existent. Surprisingly, this study also found that self-concept is important to darker skin individuals. Documenting any correlation between Latinx and dating can not only contribute to the understanding of colorism, but could open up more dialogue across all racial and ethnic groups about bias and prejudice based on skin tone. Further, it is the researcher's hope that this study will inform critical race studies to combat racial and ethnic inequalities.

ELIZABETH MEDINA
University of New Mexico
A Qualitative Study of Lifeway Transition in Rural Bangladesh

Development and globalization are everywhere changing the landscapes and lifeways of rural societies. From an evolutionary perspective, rapid changes such as these pose specific challenges to individuals navigating complex nutritional and epidemiological environments, because much of human biology, culture, and behavior evolved in the context of more stable environments. This mismatch has often been investigated quantitatively, typically showing negative impacts on human health. What do these changes mean to people? How do individuals understand the complex changes that they must navigate over the course of their lives? In this study I explore the experiences and self-reported health behaviors of individuals living in a transitional context in rural Bangladesh, where increasing opportunities for migrant labor, new food processing, jobs, and market integration have led to lifestyle shifts that appear suboptimal with respect to health. Specifically, I qualitatively analyze 48 interviews collected in 2010 in rural communities outside of Dhaka, Bangladesh. These semi-structured interviews were designed to elicit holistic assessments of changing lifeways, including experiences of subsistence and health change. Preliminary results suggest that economic changes are viewed favorably even as health is perceived to deteriorate. This is consistent with expectations drawn from evolutionary mismatch theory. Exploration of personal experiences of families in the midst of market integration such as the often over looked point of view of women left behind during labor migration; reveal how external health forces and perception on labor migration are impacting every day behavior and provide evidence of priorities shaping decision making in evolutionary novel contexts.

ZEBA MOHAMMAD ARIF
Notheastern Illinois University
Gender Income Inequality in the Middle East and North Africa Region (MENA)

Women in the MENA region experience gender-based discrimination that restricts them from accessing essential resources such as jobs and education. This sexism even restricts their mobility inside or outside of the country. Favoritism towards men has resulted in income inequality among men and women in this region. The gender differentials in the monthly earnings for full-time workers in public and private sectors are 20% and 28%, respectively. The purpose of this study is to examine the gender wage gap in MENA by taking a standpoint on culture. Researchers have found that it is difficult for women to start their firm in MENA because prejudices against women working outside the house are prevalent. Investigators also found that in this region upholds a mistaken belief that women have a high-risk aversion. Literature also points out that laws specify that women should be in charge of the household, and men should be the main income earners. Literature also documents that recent developments on educational opportunities for women in the MENA have not closed the income gender gap. This qualitative study will use case study methods to investigate the causes of gender-based wage inequality in Emirat Abu Dhabi 1997. Using previous scholars helps to shed light on the experiences and resilience of women in these countries. It will offer suggestions to work towards a reformed system that will grant women access and equality to better income sources and quality of life.

July 30, 2020 - 12:00 PM PDT Breakout 9: Biology Panel B

ANDREW BEARD
Kent State University
The Cellular and Molecular Mechanisms of Opioid Signaling in Addiction and Withdrawal

Introduction: The six layers of the rat cerebral cortex consists of around twenty-one million cells which can be sub-divided into distinct neuronal and glial populations (e.g. GABAergic, Glutaminergic, Astrocytic). These neuronal populations are differentially targeted by both licit and illicit drugs to alter cellular states, excitability, and/or behavioral outcome. Opioids alter cortical excitability through inhibition of GABAnergic inhibitory interneurons leading to disinhibition of glutaminergic neurons and downstream excitation of dopaminergic neurons. Resulting in altered reward evaluation and opioid induce analgesia. Objective: To use calcium ($Ca2+$) imaging and Immunocytochemistry - Immunofluorescence to identify the key cell and molecular targets of fentanyl effect in the cortex. Methods: Cortical neurons isolated from (P0) rat pups, were cultured on glass coverslips, and allowed to form mature synapses over 12 days. On days 13-20 cellular activity was first assessed through live cell imaging using calcium sensitive dye, Cal-520 AM, before (control 3-4 minutes), during (treatment 15-minutes), and after (washout 6-minutes) exposure to fentanyl. Followed by immediate fixation and Immuno-labeling with neuronal (Anti-NeuN), Astrocytic (Anti-GFAP), GABAergic (Anti-GAD67), and Mu1 Opioid receptor (Anti-OPRM1) conjugated antibodies and imaged at 594, 647nm, 550nm, and 488nm respectively on an inverted confocal microscope. Results: Fentanyl was found to inhibit intrinsic calcium activity in a cell-type specific manner that was partially reversed by drug washout and followed by immediate disinhibition of downstream (post-synaptic) neurons. Conclusion: These data support previous evidence that opioids selectively act on specific subpopulations of cortical neurons that suppress and limit cortical excitability.

YESSICA RODRIGUEZ
University of Northern Colorado
Quantification of male and female feather temperature in relation to color in American Robins (Turdus migratorius)

Studies of sexual dimorphism in animals have focused primarily on visible features such as those of size or appearance. American Robins (Turdus migratorius) exemplify physical differences between males and females, where males present darker plumage colorations. American Robins also use thermoregulation to control body temperature, using feathers to serve as a buffer between their body and the environment. This study was designed to test for a relationship between feather temperature and feather coloration in American Robins. I predicted that darker colored feathers would exhibit more absorption of heat compared to lighter colored feathers. I also predicted that because males exhibit darker feathers, they would exhibit more absorption of heat. Temperature readings of feathers collected during the summer 2019 field season were recorded and compared against color specifications from HEX codes in Adobe Photoshop. Feathers were placed on a self-made apparatus and exposed to three different wattages of light (80W, 125W, & 160W). The warmest areas on the feathers were located with a thermal imager, and then temperature was measured with a thermometer for accurate measurements of temperature. Measurements of temperature before exposure acted as the control group, and the three wattages of light gave the experimental groups. I tested for a correlation between color and temperature using statistical regression, and I also tested for a sex-based difference using t-tests. This research aimed to expand on the current understanding of sexual dimorphism in American Robins; findings may additionally account for other evolutionary observations that generally apply to avian species.

AARON ROMERO
University of New Mexico

Conservation of Gcn4-dependent lifespan extension by altered mitochondrial translation in Caenorhabditis elegans

People have been thinking about aging and the process of why we age for millennia. Regardless of who you are, aging is something that is inevitable. Aging is the single greatest risk factor for almost every disease in the modern world. Increases in rates of cancer, neurodegenerative diseases, and cardiovascular disease occur with aging. As populations around the world continue to age, the cost of these age related diseases will continue to increase,. In the fields of biochemistry/genetics, scientists have been able to study aging by looking at simple genetic model organisms like Saccharomyces cerevisiae (yeast) and Caenorhabditis elegans (worms or nematodes). Contributions to the solution to aging have shown to increase or affect lifespan of these organisms through deletion or inactivation of certain genes which affect certain biological processes. In our lab, we have previously shown that deletion of some genes involved in mitochondrial translation extends lifespan in the budding yeast S. cerevisiae. This also leads to an increase in the yeast protein Gcn4, which is upregulated in other longlived yeast. We want to ask first, whether RNAi knockdown of the C. elegans orthologs of these mitochondrial translation genes increases lifespan, and if so, whether this extension depends on atf-5, the C. elegans ortholog of the yeast gene GCN4, and whether it leads to an increase in atf-5 levels. The mammalian ortholog of GCN4, ATF4, has been shown to be upregulated in multiple longlived mouse strains, suggesting that the pathways we are studying might affect lifespan in humans.

July 30, 2020 - 12:00 PM PDT Breakout 9: Clinical Medicine, Dentistry and Public Health Panel C

ALMALINA GOMES
University of California, Santa Barbara
Maternal/Child Health and Nutrition in sub-Saharan Africa

This presentation will examine how determinants to health have affected the nutrition and overall health of mothers and children in sub-Saharan Africa since 2000. A mother and child's nutritional status is a good indicator of their overall health. Without a proper food supply, their health can be greatly compromised. By analyzing the surveys and articles provided by the Demographic and Health Surveys website, this presentation will compare how maternal/child health has improved overtime as well as compare how it differs between African countries. The two countries that will be addressed are Ethiopia and Kenya.

CRYSTAL MARTIN
Bowling Green State University
Exploring Factors That Negatively Affect the Increased Maternal Mortality Rate in Black Women

Maternal mortality among black women is a problem that has persisted for decades. One problem lies in the major difference between the death rates of black women and white women. The higher maternal mortality rate in black women in the United States is gaining more attention from black women, doctors, and researchers. The literature has exposed factors connected with this gap. These factors can be linked to systemic racism. This study aims to explore four factors, uninsured women, prenatal care before the third trimester, postpartum depression, and drug deaths which are most closely associated with maternal mortality as well as analyzing how the difference between maternal mortality rates of black and white women in the United States from 2013-2017 differ and how racism could be a factor. A mixed methods was used to analyze maternal mortality at the national, state, and local levels. Two case studies, the states of New Jersey and Mississippi, were selected to analyze how each of the factors contribute to maternal mortality on a state or local level. Preliminary results show that some factors are more or less important in black and white women. These results also suggest that these differences might be linked to systemic racism, most notably in the healthcare system. Future research might include looking into other states with large differences in maternal mortality between black and white women. Policy implications might include the development of an action plan to help lessen or even prevent maternal mortality and other major health disparities.

JACOB MOYA
University of New Mexico
Intergenerational Correlations Between Maternal and Child Health in Indonesia

This project researches intergenerational correlations in health, and how is that health affected by natural disasters. Using econometric OLS regression, we model the relationship between maternal and child health in Indonesia to gain an understanding on if health is transferred intergenerationally, and how natural disasters affect their health. The data used for this research paper comes from the Indonesia Family Life Survey, which was collected in a series of 5 waves from 1993-2016; the data that will be focused on includes: contraception, infant and child health, education, and the health status of adults. Based on the review of literature, there is evidence that the effects from natural disasters have caused long term health effects on the individuals as well as the offspring; identifying these issues and finding ways to creating a resilience towards them will benefit generations of individuals health and socioeconomic status.

July 30, 2020 - 12:00 PM PDT Breakout 9: Engineering Panel D

MOHAMMAD MAJID
University of Nebraska–Lincoln
Investigation of Protection Failure Methods in WDM and Elastic Optical Networks

Optical transport networks are a widely useful form of technology which is based upon communication networks that allow the request of incorporating many services in our daily life. The evolution of optical networks from WDM (fixed grid) to a more flexible grid in elastic optical networks (EON) has allowed for the accommodation of heterogeneous bandwidth requests. During the time of a request traversing towards its destination, a possibility of a link failure is inevitable and can lead to much data loss. To secure and prevent the loss of data, a failure protection method should be applied to the network. Protection methods supply backup paths that are used to recover from a network failure. Path, link, and segment-based protection can help mobilize the network from single-link failures. Each of these protection schemes will be investigated through various algorithms that abide by the constraints in routing and spectrum allocation (RSA) for EON on a NSF network topology. The path and link-based protection schemes utilize p-cycle protection, and a unicast segment-based protection algorithm was proposed and investigated by comparing its functionality with both path and link-based protection algorithms. Four data sets were used which contain a source and destination, along with the requested bandwidth in Gb/s. Each link in the network had 20 frequency slots and each slot had a bandwidth of 12.5 GHz. This research provides more insight and motivation using unicast segment-based protection with other protection methods when understanding their functionalities through the utilization of spectrum and paths.

YASH SHAH
University of Nevada, Reno
The use of honeypots to improve cyber resiliency on IoT devices

There is an urgent need to develop new protection mechanisms against cyber-attacks to protect the rapidly growing usage of the Internet of Things (IoT) devices such as smart lights, thermostats, speakers, and smart plugs. To improve cyber resiliency, we will focus on utilizing honeypot frameworks to assess attack patterns. Honeypots are generally used as decoys when seeking to protect the central server of a network. A similar approach will be used for the project, and simulated experiments will be conducted to assess the impact of honeypots in IoT networks. Several honeypots will be emulating operating systems of various IoT devices, thereby forming a honeynet assisting with the collection and analysis of cyber-attacks. Network efficiency will be tested through these simulated experiments by the amount of data sent and received by the server. Strategies for incorporating honeypots with IoT networks to boost their efficiency will be developed. With the assistance of honeypots, the expectation is to observe an increase in network efficiency and performance.

SERIGNE TOURE
University of Nebraska–Lincoln
The effects of applying multiple constraints in reinforcement learning

Reinforcement learning agents can theoretically, with enough time and training, learn any given task. However, in order to satisfy safety conditions or complete a task, a reinforcement learning agent may be constrained from acting freely (e.g., to prevent a self-driving car from causing accidents when going to its destination). For this purpose, a general framework for augmenting a Markov decision process (MDP) was created with constraints that are described in formal languages over sequences of MDP states and actions. Currently, only one constraint at the time could be applied to an agent during its training. In this study, the research is extended to see how multiple constraints could affect the performance of an agent. Applying this new method is important because it will give us a better understanding of the previous literature and explain the factors that are the most important in the learning process of an artificial intelligence. To gather data, we will use a modified version of an opensource library called baseline optimized for the purpose of training reinforcement learning agents. Based on prior literature, we expect that adding more constraints will allow the agent to learn better in the same amount of time thus cutting time and resources used for training it. This will also enable us to have better performing artificial intelligence. The findings of this study could provide other researchers with more information about constraints and the general mechanics of the training process of reinforcement learning agents.

Abstract titles link to event detail pages.

July 30, 2020 - 12:00 PM PDT Breakout 9: History Panel E

FATIATAMAI FOLAU
University of California, Los Angeles
Popolo, Meauli, Uliuli: Modes of Anti-Blackness in Oceania

My encounter with my family in Samoa opened my eyes to how pervasively and virulently anti-Blackness and colorism operate. As I grew darker during my visit to Samoa in 2019, I was teased for being a "loli," a Samoan term for black sea cucumber, which signals Blackness (Meleisea,1976). In context, association with Blackness is less embraced nor valorized. This research focuses on how anti-Blackness and colorism operate in Oceania and how anti-Black tendencies (such as language and bias) manifest themselves throughout the Pan-Pacific diaspora. Focusing on textual analysis and scholarly literature surrounding anti-blackness and its relations to Oceania (Arvin, 2014) allows for a more in-depth exploration of the interconnected relationships between anti-Blackness, colorism, and whiteness, and how they unfold in Oceania. Scholar Maile Arvin explains that the perception and understanding of Blackness is a result of Settler Colonialism. Testimonials will be collected from the broader scope of Pacific Islanders about their own experiences with anti-Blackness through virtual interviews, forums, and social media polls. This research aims to highlight the under-representation of Pacific Studies in academia and expand the academic literature around Oceania.

DANIELLE SANCHEZ
Baylor University
George W. Bush: The Rise of Evangelical Rhetoric and a Modern-Day Christianity's Complacency

This research seeks to examine the relationship between President George W. Bush's open embrace and promotion of conservative Christian values in the implementation of his faith-based initiative, and the attitude of racism and denial of accountability for oppression and participation in white supremacy in the modern evangelical Christian church. Through Bush's rhetoric he fostered an environment in which God reigned supreme and backed every decision he made, with or without actual logic and facts. Because of this, the faith-based initiative supplied funds to primarily Christian programs for rehabilitation for a multitude of problems. Through the analysis of George W. Bush's speeches, correspondence, autobiography, and other mediums, it is clear that his presidency was one rooted in his faith rather than fact and reason. Due to the environment this faith-based presidency sponsored, coupled with the backlash from evangelical Christians at the election of Barack Obama, it set the stage for a rabid evangelical base compliant in the oppression of minorities and persons of color in the modern day. This research seeks to trace a direct path from the Bush presidency to the evangelical base stirred by President Donald Trump today.

MICHAEL DELOS SANTOS
University of California, Los Angeles
Clash between the Soviet Union and the United States of Westernization, Egotism, and Engagements in the Cold War

Writer Odd Arne Westad (2006) writes that "The conflicts that emerged and the legal policies that were created were what drove the United States to want to become the police keepers internationally" (Pg. 52), referring the lesser explored and motivations of various interventions by the United States in other countries after World War II. Between 1945 -1975, the United States advocated the spread of democracy and increased political influence. This research study examines pivotal US military actions and interventions, specifically proxy wars, doctrines, and legal policies to reappraise these notions of capitalism, democracy, and western influence that were popularized. Following World War II, the United States rose to status of global superpower, considered to be rivaled by the Soviet Union because of their contribution to the global spread of communism, particularly in developing nations. This started a long political and social rivalry between the two. Over the course of four decades, the United States would partake in several military and political actions often remembered as acts of peacekeeping on behalf of several developing nations. This study examines legal policies during the Cold War in relationship to ideas of US imperialism and egotism. Utilizing a mixed-methodological approach that includes archival analysis and ethnography, this study intends to examine US post-World War II military action in relation to the United States' newfound superpower status, specifically how these actions and interventions may or may not have been the result of modern-day egotism or imperialism rather than widely believed attempts to support peace efforts.

Abstract titles link to event detail pages.

July 30, 2020 - 12:00 PM PDT Breakout 9: MIMG Panel F

BEATRICE GONZALEZ
University at Buffalo, SUNY
Down-regulation of ETS-1 in Triple-Negative Breast Cancer cells via Bacterial Enterotoxin LT-IIc

Abnormalities in expression of External Transcribed Spacer (ETS) transcription factors can facilitate cell proliferation in cancer cells. ETS-1, a member of the ETS family, mediates over-expression of genes linked to tumor progression and cell invasiveness. Recent findings in our laboratory demonstrated that expression of ETS-1 is down-regulated in MDA-MB-231, a triple-negative breast cancer (TNBC) cell line, that are treated with LT-IIc, a type II heat-labile enterotoxin produced by Escherichia coli. Our goal is to evaluate the potential role of LT-IIc induced down-regulation of ETS-1 expression in cell invasion of TNBC cells. To address this question, I will focus on the molecular function of EST-1 and Parathyroid Hormone-related Peptide (PTHrP), a ETS-1 responsive protein involved in inducing multiple malignancy tumors that activates the Transforming Growth Factor Beta (TGFβ) pathway. Future research will focus on confirming the role of reduced expression of EST-1 in the cytotoxic activity of LT-IIc for TNBC cells.

VERSHAWN HANSEN
University of Wisconsin-Madison
Racial Disparities in Sexually Transmitted Infections

Sexually transmitted infections (STIs) are passed from one person to another through sexual or intimate physical contact, including vaginal, oral, and or anal sex, caused by bacteria, viruses, or parasites that enter and grow inside or on the body. For five consecutive years, STI rates have increased, reaching an all-time high in the United States. Though there are little differences in the sexual behaviors between Black and White individuals, Black individuals are infected with STIs at alarming rates. The key underlying factor is the continuing effects of institutionalized racism and discrimination, in which minority communities have suffered disproportionate concentrations of poverty and high risk of socioeconomic failure There are four pathways in which racism and discrimination can harm human health via the transmission of STIs: economic and social deprivation; targeted marketing of legal and illegal psychoactive substances; residential segregation; and inadequate health care, including the lack of access to care.

LAUREN HEINZINGER
University at Buffalo, SUNY
RNA-Sequencing reveals a role of JNK/AP-1 signaling pathway in age-driven impairment of PMN antimicrobial function

Streptococcus pneumoniae is a leading cause of community-acquired pneumonia in the elderly (≥ 65 years old). Polymorphonuclear leukocytes (PMNs) or neutrophils are innate immune system cells that are required for the clearance of S. pneumoniae infections but the function of PMNs declines in older individuals. CD73, an enzyme that produces extracellular adenosine, is required for PMN antibacterial function but is downregulated in PMNs from aged hosts. Our study aims to identify changes in the PMN transcriptome induced by S. pneumoniae infection in order to gain further insight into the signaling pathways that are required for host response and are dysregulated in older individuals. PMNs were isolated from bone marrow of young, old, and CD73 knockout (CD73-/-) mice and challenged with S. pneumoniae TIGR4 in-vitro. RNA-seq identified genes that were differentially regulated during infection and qPCR validated specific genetic targets. Upon infection, genes in the AP-1/JNK (activator protein-1/c-Jun N-terminal kinase) pathway were upregulated in PMNs from CD73-/- and old mice but not in PMNs from young mice. To investigate the role of the AP-1/JNK pathway in PMN anti-microbial function, we performed assays to test the bacterial killing efficiency of PMNs in the presence of AP-1/JNK inhibitors. We found that inhibition of AP-1 and JNK significantly boosted the ability of PMNs from old and CD73-/- mice to kill S. pneumoniae. These data suggest that the AP-1/JNK pathway is controlled by CD73 and dysregulated with aging, which contributes to the deficit in S. pneumoniae killing seen in older individuals.

Abstract titles link to event detail pages.

July 30, 2020 - 12:00 PM PDT Breakout 9: Psychology and Cognitive Science Panel G

RUTH FOLARIN
John Jay College of Criminal Justice
An Examination of the Relationship Between Minority Communities, Mental Health, and Justice-Involved Youth

Many minority communities do not have access to mental health resources. A focus group of African American women, found that residents did not know how to access available services (Robert et.al, 2008). For youth, especially Black youth, this can lead to increased involvement with the juvenile justice system. In a study using over 50,000 juvenile cases, about 59% of cases involving Black youth had a recommendation for formal processing, which is processing youth through the juvenile justice system without considering alternatives or mental health services. Furthermore, 47% of Black youth had a petition for their case to be taken to court (Bishop and Frazier, 1988). In the 1829 youth that were detained in Cook County, Illinois, 66% of the male population and 73% of the female population met the criteria for 1 psychiatric disorder (Teplin, et.al, 2002).
The proposed study will focus on two research questions: Does lack of access to mental health services increase the risk of contact with the law enforcement and the juvenile justice system? If so, does this disproportionately affect minority youth? The study will use a quantitative survey to gather information about opinions about mental health and treatment, utilization of mental health services for their children, interactions with the juvenile justice system, and barriers to mental health help seeking. The survey will be administered to parents. The expected results for this study are that minority communities and the barriers of mental-health help seeking will directly impact the rate at which minority youth are incarcerated.

MARLIE HARRIS
The University of Texas at Austin
Gender Differences in Cultual Mistrust and Mental Health in the Black Community

This study will examine the relationship between cultural mistrust and the mental health of black men and women (n=408). Given that previous research has shown a correlation between cultural mistrust and help seeking behavior in a variety of cultures, we want to examine how the intersection of race and gender impacts the relationship between mental health and cultural mistrust in Black Americans. Results from our independent sample t-test, correlation analysis, and anova indicate significant gender differences in the effects of cultural mistrust and overall mental health in Black Americans. Higher rates of cultural mistrust were significantly correlated with lower mental health averages. Black women from our study had higher rates of cultural mistrust and lower mental health compared to Black men. Implications for further research analyzing mental health in the Black community will be further discussed.

LORRAINE IGLESIAS
John Jay College of Criminal Justice
The Relationship Between Depression, Cultural Stress, and Suicidal Behavior among Latinas

The rates of suicidal behavior among Latina emerging adults are rising. Consequently it is important to understand factors that may be contributing to this increased risk. Thus this study examines the role of cultural stress and depression in suicidal behavior, specifically we will examine whether cultural stress moderates the relationship between depression and suicide among a sample of 800 emerging adult Latinas. Researchers collected four questionnaire responses from each of the participants: The Social, Attitudinal, Familial, and Environmental Acculturative Stress (SAFE) Scale, which measures acculturation stress; Family Emotional Involvement and Criticism Scale (FEICS II), which measures family involvement; Trauma and History and Life Stress, which measures traumatic life experiences; and Perceived Stress Scale, which measures perceived stress. We hypothesized that depression would be significantly positively associated with suicidal behavior, and that cultural stress would moderate this relationship, due to the effects of the relationships between (1) Latinx cultural stress and depression, (2) family involvement/acculturation stress and depression, (3) depression among Latinas, and (4) depression and suicidal behaviors among Latinas. The results of this study will be discussed as they pertain to prevention and intervention for depression and suicide among Latinas.

Abstract titles link to event detail pages.

July 30, 2020 - 12:00 PM PDT Breakout 9: Sociology and Public Affairs Panel H

SARAH CHURCH
Westminster College
The Power of Portrayal: The Skateboarding Community

Since its conception in the 1950s in California, skateboarding has not been a marked as a traditional sport. The individualism that makes skating so fascinating is the basis for much of the research that we see on skating today. Understanding how and why the community is so close-knit, how skaters occupy and make use of their space, and learning who skaters are has helped researchers gain a better insight into how communities in the context of subcultures function, and what aspects are helpful or hindering in the success of these communities. The concepts of presentation of self and performance are closely intertwined with the skateboarding community, and by researching the increasingly popular sport of skateboarding, we also know how the performance of masculinity is typically central to skater values and norms. Under the mentorship of Kristjane Nordmeyer, my research project involves a part-contextual and part-visual analysis of the popular skateboarding magazine, "Thrasher." I will be thematically coding 50 random magazine covers from the past 40 years of the magazine's issues and will be categorizing the covers by determining who is occupying the cover, if the cover is more masculine or feminine focused, white or nonwhite focused, and if social resistance or anti-establishment themes are present. Based on my findings, I will be able to draw conclusions about the changing culture of the skateboarding community, and have a better understanding of why, for many, the skateboarding community embodies resistance.

LUNA PEREZ-VEGA
University of California, Santa Barbara
Mi Gente: An Analysis of the Urban Assimilation Process in Southeast Los Angeles

Over the last few years, Gentrification has been increasingly impacting working class communities of color in the Los Angeles area. Signs indicate the effects of Gentrification are now spreading into the South East Los Angeles area (SELA) as evidenced by rising rent prices and establishment of new businesses. However, unlike other areas, SELA is primarily experiencing Gentefication. A recent social trend proposed by Latinx business owners or entrepreneurs who come back to the community they grew up in and/or enter a predominantly Latinx community to aid in the revitalization process. Thus, prompting the question can gentefication be a method for economic and cultural revitalization of urban Latinx communities without excluding community input and producing residential displacement? . This research will illuminate new perspectives into how ethnicity and identity politics plays a role in the Gentrification process. For this study, I will be basing it upon a qualitative ethnographic approach by having semi-structured interviews with 10 local residents to understand their perspectives with recent developments occurring in their community. Even though some SELA residents view the economic benefits of these developments, they demand for local governments and new business-owners to engage with community members to respectfully reflect the interests and needs of these working class cities.

DAISY ROBLES
University of California, Davis
Latina and Latino metabeliefs about Status Misattribution

"Immigrant innumeracy" is the tendency for individuals to overstate the size of immigrant populations. The notion of innumeracy is politically and socially important for three reasons. First, immigrant populations are commonly portrayed as threatening populations, where threat, broadly conceived, extends to economic competition, challenging cultural identity and even national security. Second, individuals exhibiting immigrant innumeracy, support for restrictionist and punitive immigration policy seems to be higher compared to less "innumerate" individuals. Third, individuals who are ethnically or racially connected to immigrant populations but are themselves not immigrants, likely experience or report negative outcomes if they believe immigrant status is incorrectly attributed to them, a phenomenon we call status misattribution. We examine the issue of "innumeracy" from the perspective of the "target" population. Specifically, we assess the degree to which Latina/os have metabeliefs that non-Latina/os misattribute their immigration status and explore implications of status misattribution on a number of outcome measures. Using data from several online surveys partnered with Qualtrics, we find strong evidence of "innumeracy" as well as strong evidence Latina/os believe their immigration status is regularly misidentified.

Abstract titles link to event detail pages.

July 30, 2020 - 2:00 PM PDT Breakout 10: Arts and Multimedia Panel A

SELENA ESQUIVEL
University of Wisconsin-Whitewater
How to Create an Inclusive Instrumental Ensemble for Students Who Are Blind

In 2004, the Individuals with Disabilities Education Act (IDEA) was created to make a free appropriate public education available to eligible children with disabilities and ensures special education and related services. Despite these laws being in place, there is still a gap in inclusive education for students with disabilities and their abled counterparts. This gap is more extensive in terms of music education, specifically instrumental music. This study will explore the following question: How can an instrumental ensemble be inclusive for students who are blind? The strategies found in previous research tend to allow the students to be able to participate in the ensemble but in an exclusionary manner. The goal of this study is to find practices that are inclusive and avoid or limit isolation in the ensemble. Data will be collected through surveys, semi-structured interviews, and observations. The surveys and semi-structured interviews will be administered on the first and last day of observing the ensemble. Observations will occur over the entire research period. First, however, the strategies found and employed in other studies need to be taken into account based on the pros and cons of each strategy. These can then be utilized to help create stronger accommodations that the researcher will create and employ. Data has not yet been collected but will be collected starting in fall 2020.

KEVIN HERNANDEZ
University at Buffalo, SUNY
Sublimity in the Music of Undertale

As video games become more integrated into our daily lives, it is important to understand how they affect the way we digest interactive multimedia experiences. To better comprehend these experiences, this research examines the relationship between music and multimedia elements such as tropes, gameplay elements (gameplay mechanics, plot, characters etc.) and narrative in Toby Fox's Undertale (2015) and how they create a sense of Kantian sublimity within the game's boss fights. In addition, this research also sheds light on the significance of sublimity within the music using a multimedia analysis of compositional techniques and image. Furthermore, I will be showcasing a piece of originally composed music based on my findings of Fox's style to emulate how to create sublimity within video game music. Overall, comprehending the role of music in video games can provide a better insight on the ways music can instill feelings within the player.

SEBASTIAN MIRELES
California State University, Monterey Bay
Pornography and Ideology

The integration and casualness of sex in more recent decades, evident in mediums such as advertising and music, bear striking resemblance to the aesthetic and feel of pornography. The prominence of pornography has left some individuals distraught and others less concerned about pornography's societal effects and utility. Yet, mainstream conversations about the obscenity and legitimacy of pornography are only surface level and fail to adequately address the true issue, which is how the ideology embedded in pornography blinds and harms us. Some Feminist philosophers like Catherine MacKinnon move beyond conventional opinions and views pornography as a form of sex discrimination via ideology. However, even MacKinnon fails to realize that banning pornography may in itself perpetuate an ideology that is equally, if not more, harmful to women, e.g. that of racial hierarchy and limited amounts of power for women. Through the process of deconstructing arguments for and against pornography, using the Marxist and Althussarian theories of ideology, I argue that there is no such thing as good porn. Ultimately, my purpose in this paper is to explore the ways in which ideology not only shapes people's attitudes towards pornography but how pornography perpetuates ideologies. I aim to also clarify what preconditions would be necessary for the production of good pornography in a culture that views pornography as legitimate.

Abstract titles link to event detail pages.

July 30, 2020 - 2:00 PM PDT Breakout 10: Education Panel B

ROGELIO BAZAN FLORES
University of California, Los Angeles
Addressing the Institutional Detriments of Health and its Effects on Minority Health Professionals When Dealing with Medical Burnout

With increasing trends of social minority groups going into medical school, there has been an increase to the diversity of medical staff in the field (AAMC Facts & Figures, 2014). This research focuses on the institutional determinants of health, while exploring peripheral generational trauma and the effects it has on medical practitioners of color. In essence, the purpose of this research is to uncover the dangers in the lack of conversation around minority health professional burnout and the rising diversity in medical teams. Using the theoretical framework of Peripheral Generational Trauma-Race Consciousness, the experiences of minority healthcare providers will be investigated through a survey and interviews distributed to health professionals working in Los Angeles. Through data collected, the goal is to attain an insight to the burnout and treatment for historically disenfranchised populations. Specifically, this research adds to the academic dialogue around the intersection of cultural consciousness and susceptible minority communities and focuses on the restructuring of policy to better support our practitioners of color. Further research could explore the relationship between minority health professionals and the translation in the quality of care communities of color receive at large.

KIARA CARTER
Kent State University
Peer Effects of On-Campus Students

Within labor economics, there is a large literature on peer effect spillovers. Peer effects, in education, examine how a student's characteristics or innate ability might affect the achievement outcomes of their peers. Within the peer effect literature in post-secondary education, peer groups are often examined within dormitories. The Kent State University dataset used is interesting. In this dataset, peer groups are defined within First Year Experience classrooms, which are mandatory courses taken by freshman student in their first semesters at KSU. The FYE classes vary depending on the proportion of the students who reside on-campus. We examine how the mix of on-campus and off-campus students affect student success. Preliminary effects suggest that more on-campus students in these peer groups are associated with higher grade point averages during the first year, and increased retention into the second year.

LAMIESHA LYTLE
Kent State University
Drinking Water from a Fire Hydrant: Stressors of Pre-Medical Students

Prior research on medical students highlights the stress they encounter while pursuing their professional degree. Little is known, however, about the stressors impacting pre-medical students completing their undergraduate coursework. Using a mixed method study, we seek to understand the experiences of pre-medical students in relation to stress and burnout. We surveyed 132 pre-medical students, 28 direct entry/early acceptance (DE/EA) and 104 traditional in April 2019. Quantitative data show that life satisfaction and self-rated health were greater in DE/EA students than general pre-medical students, but generally high for both. Burnout and depression were fairly high in both groups, but lower for DE/EA students. A subset of 23 DE/EA students were also interviewed independently. Qualitative findings suggest that these students experience stress associated with curriculum, achievement, and lack of time. We argue that understanding pre-medical students' stressors is crucial to preventing future burnout in these students prior to and during medical school.

Abstract titles link to event detail pages.

July 30, 2020 - 2:00 PM PDT Breakout 10: Engineering Panel C

REBECA GRIEGO
California State University, Long Beach
Orbital Debris: The Importance of Collaboration

Space resources are essential to our everyday lives. For decades the orbital debris issue has been discussed, yet no laws have been established in order to control and protect the space environment. We must come together as one: scientists, engineers, lawyers, etc., to protect space. Scientists and engineers can work to ensure the current state of our near-Earth space stays safe through space situational awareness and the creation of mitigation techniques. Lawyers must work to establish laws in order to protect the future of space exploration and life as we know it. The public can help by staying informed and advocating for orbital debris to policy makers in order for them to enact such laws. Because of the complexity and multiple uses of space, orbital debris is an interdisciplinary problem that will take interdisciplinary action to solve. The goal is to show the response of many organizations who have set interdisciplinary groups to help with the mitigation of orbital debris, yet no laws have been passed. This is why the knowledge of the issue to the general public is crucial; laws are made when people show interest in something; people cannot show interest in the issue if they do not know about its existence.

ANOOP KIRAN
University at Buffalo, SUNY
Orbital simulation using fourth order Runge-Kutta integrator method

Accurate and efficient orbital propagators are critical for space situational awareness since they drive uncertainty propagation, which is necessary for tracking, conjunction analysis, and maneuver detection. A gravity potential in spherical harmonics is a great approximation to any gravitational field. In orbital mechanics, numerical methods are widely used to solve differential equations. Through the application of algorithms in MATLAB, orbits in this gravity potential can be simulated. This introduces the challenge of analyzing orbit disturbances due to irregularities in the gravitational field being considered. A numerical method solution is required to accurately perform the orbital simulation in a timely manner. Frequently used methods include Euler & modified Euler, but they are often the simplest and least-accurate method for integrating an Ordinary Differential Equation (ODE). On the other hand, fourth order Runge-Kutta (RK4) integrator offers second order accuracy by using the initial derivative at each step to find a point halfway across the full length of the interval, making it suitable for large time steps without expensive computation. Initially 6 states, including three each for position and velocity are considered by the integrator. In real conditions, noise is added along with some standard deviations to these position outputs. Through the application of an Extended Kalman Filter (EKF), we can gather a series of measurements observed over time, to provide estimates of unknown variables that tend to be more accurate than those based on single measurements alone. This presentation will cover the equations and algorithms involved in understanding this concept.

STEPHANIE PEREZ
University of Nebraska–Lincoln
Investigating an Efficient Method for Extracting Microplastics from Soil/Sediment Samples

The objective of this study was to identify the most effective method-out of three methods- for quantifying microplastics in soil samples. There is a current lack of effective techniques for extracting microplastics from soil samples. The overall objective of this project was to identify a method that will efficiently quantity micro plastics in soil samples. By combining techniques from current known extraction methods, three new methodologies were developed. The first microplastic extraction method consists of an oleophilic extraction including oxidation. The second method consists of centrifugation without oxidation. Finally, the third method consists of centrifugation with oxidation. The most efficient method will be identified based on the highest microplastic recovery rates. Oleophilic extraction methods tested in the past had high recovery rates. (Crichton et al., 2017). Therefore, it was expected that the oleophilic extraction with oxidation was to have the highest recovery rates of all three tested methods. Once the method was identified, it was tested on soil samples with unique contents such as manure or biosolids. If the newly identified method works well on such samples, it can be used for future quantification of microplastics in soil and sediment substances.

Abstract titles link to event detail pages.

July 30, 2020 - 2:00 PM PDT Breakout 10: Neuroscience Panel D

KAITLYN BAKER
Kent State University
The Neurochemistry of the Human Striatum

One of the most compelling questions yet to be answered is how the human brain evolved to support human-specific behavioral and cognitive specializations. A recent study suggested that a change in the neurochemistry of the human striatum possibly preceded bipedalism in our early ancestors and was critical for increased expression of social behaviors such as monogamy, altruism, and empathy. Specifically, humans have increased dopamine and decreased acetylcholine within the striatum compared to other species. Building on this earlier work, we examined the distribution and density of opioid (MOR) and cannabinoid (CB1) receptors within striatal regions of humans and nonhuman primates. We hypothesized that MOR and CB1 receptors would be denser in humans to support uniquely human sociality, including language, and that humans and other monogamous species in our sample would have increased MOR densities compared to non-monogamous species. Immunostained sections were qualitatively examined for relative axon densities. Interestingly, our data did not support our hypotheses. Humans did not exhibit increased densities of CB1 and MOR relative to nonhuman primates. However, the monogamous primates, including marmosets, owl monkeys, and humans did exhibit an overall tendency toward denser MOR relative to the non-monogamous species. Humans and marmosets had more MOR axons in the nucleus accumbens (NAcc). Marmosets, owl monkeys, and bonobos shared the highest amount of MOR in the VP, with humans and the other great apes having slightly less. Future data, including quantitative analyses, are needed to determine how cannabinoid and opioid systems contribute to human and nonhuman primate life-history variables.

COURTNAI RICHARDSON
Kent State University
Mitochondrial Dysfunction in Alzheimer's Disease

While Alzheimer's disease (AD) has been recognized as a devastating neurological disorder for over 150 years, the underlying causes remain unclear and there are still no effective therapies. The goal of my research is to identify therapies for this devastating disease. A hallmark within this disease is mitochondrial dysfunction. Mitochondrial dysfunction causes a decrease in the energy supply for the neurons involved. A dysregulation of methionine metabolism is a key contributor to decreased methylation of histones. The loss of methylation leads to an accumulation of damaged mitochondria in the cell leading to loss of function. We have shown that a dietary factor known as betaine, is able to restore histone methylation and energy production in mouse models of neurodegeneration. In the present study, we are investigating the role of betaine in the restoration of methylation in order to restore to normal mitochondrial function to the neurons in mouse models of AD.

KIM ROGGE-OBANDO
University of New Mexico
Interpreting a Ward-Cluster Analysis on Multisensory Facilitation in Schizophrenia Patients

The literature continues to identify a delayed reaction response to auditory-visual stimuli in patients with schizophrenia (SP). However, the cause of the deficit is a mystery. This research collected the demographics of the participants, administered several behavioral assessments, and conducted an auditory/visual multisensory integration task inside a magnetoencephalography. Several statistical analyses identified significant variability in the data. A 3-way ANOVA test found a significance of facilitation from distance, synchrony, and patient diagnosis. A 4-way ANOVA found a significance of facilitation between patient diagnosis and higher quantiles. To understand further, a ward cluster analysis was done to identify which participants would group together based on synchrony, quantile facilitation and RT mean facilitation. We hypothesis that the clustering would polarize SP from the healthy control (HC). Interestingly, neither of the three clusters were populated by one diagnosis. To further interpret the findings, the SP positive and disorganized factors from the PANSS scale were compared between the three clusters. Additionally, an in-depth comparison between ward clusters and behavioral assessment data was used to mediate the interpretation of the results.

July 30, 2020 - 2:00 PM PDT Breakout 10: Psychology and Cognitive Science Panel E

MAKAYLA ROGERS
Kent State University
The Prevalence of Anxiety and Depression in TRIO Eligible Students

The literature review was conducted studying anxiety and depression amongst TRIO eligible students. (First-generation, Low-income, underrepresented, students with disabilities, Deaf and Hard-of-Hearing) The research question we are addressing is,what impact do social statuses and adverse experiences have on mental health of TRIO eligible students. With the use of ACE's and cumulative stress framework we reviewed the impact that these statuses have on these students and their likelihood of having mental health concerns specifically focusing on anxiety and depression. The literature review explains that the amount of students who have these statuses and mental health concerns is astonishing to say the least. We plan to continue this research and find the most efficient ways for these students to cope with these stressors.

PRINCESS UDEH
University of California, Los Angeles
MENTAL HEALTH IN ALL CAPS: How Black College Students View The Counseling and Psychological Services

The mental health of Black college students is consistently challenged by race, discrimination, academic and social stress, and lack of academic and social support (Stansbury et al., 2011). Moreover, Black college students who attend Predominantly White Institutions like UCLA experience more minority-related stress than Black college students who attend Historically Black Colleges and Universities (Greer & Chwalisz, 2007). The long wait times and lack of Black clinicians at Counseling and Psychological Services (CAPS), the primary mental health hub for 33,000+ students at UCLA, makes it difficult for Black students to seek their services. Also, the lack of conversation surrounding mental health in the Black community and the limited physical space makes mental health care inaccessible. This research project will focus on how Black college students view mental health services within UCLA and how they create safe spaces for themselves outside of CAPS. A survey will be disseminated to Black undergraduate students at the university to get their input on their mental health comfort. Interviews will also be conducted to further understand students' views of CAPS in comparison to other safe spaces they have created. It is hypothesized that Black students may not prioritize their mental health well-being due to the academic and social stress they experience as they navigate predominantly White spaces. The goal of this study is to start a dialogue between the university and Black students and make suggestions on how the university can implement a safe space for Black students to practice mental health care.

LATIFA YAQOOBI
Westminster College
Counseling Centers on College Campuses: Are we failing our BIPOC students?

There has been an increase in numbers of College students seeking counseling center services and an increase in the severity of student mental health concerns across the nation. Researchers also believe that students of color may be experiencing greater psychological distress than their white peers. Although Black, Indigenous, People of Color (BIPOC) are in need of mental health services, we are finding that they are less likely to utilize the counseling centers on their college campuses. One study found that Latino/a students utilized the fewest sessions of counseling, followed by Asian American and then African American students. White/European American students tend to utilize the counseling centers on their college campuses the most. This study aims to investigate why BIPOC students are not utilizing the services offered to them at their counseling centers. 120 participants will take an online questionnaire to gauge their awareness of the services provided, their experiences with accessing the services, and discuss the barriers to receiving mental health services. The findings may highlight a need for targeted outreach and programs designed to bridge mental health service disparities.

Abstract titles link to event detail pages.

July 30, 2020 - 2:00 PM PDT Breakout 10: Psychology and Cognitive Science Panel F

JESSICA MACALUSO
University of California, Davis
Memory dilation via suspicion in a novel murder mystery task

It is known that active learning is more effective and typical of how we learn in real-life. However, common laboratory experiments testing memory have traditionally utilized passive learning experiences (i.e. learning lists) and do not necessarily focus on real-life, goal-focused behavior people employ in everyday life. Accordingly, we constructed a novel and immersive murder mystery paradigm comparable to the board game Clue where participants work toward their goal of solving the presented murder. We created this experiment to dynamically get at goal-directed behavior and seek out how individual differences like bias influence one's memory. Participants actively engage with the task by making suspicion ratings of each of the characters, the prospective murderers, throughout the storyline. Although each participant witnessed an identical plot, subjects intermittently focused on varied aspects of the story by recalling more details about some characters compared to others. Individual subject's suspicion of various characters shaped the story they experienced because they viewed it through the lens of their established bias. Conducted analyses included computing correlations between variables of interest such as verifiable details and level of suspicion affiliated with each character. We found that the proportion of details recalled about a specific character correlates with the suspicion rating of that given character. Our results suggest that there is an overrepresentation of details affiliated with a given character if the participant gives a higher suspicion rating. Findings from this experiment may offer insight into the role of bias and prediction in real-world recall experiences, such as eyewitness testimony.

ERIC NELSON
Texas Tech University
Mood-Congruent Memory Bias in Depression

The present study uses computerized text analysis to analyze the relationship between depression and memory, specifically testing how mood congruent memory biases relate to language use in subclinical depression. Past studies have shown that individuals with depression tend to use more negative emotional language. Participants will be assigned to one of two groups (self-relevant and non-self-relevant). Both groups will write two short paragraphs, one recalling a memory from early childhood and another pertaining to occurrences over the previous week. Participants will also complete a depression scale (CESD-R) and rate their mood before and after they provide their recollections. The passages will be analyzed using the Linguistic Inquiry and Word Count (LIWC). Taking current events into account, measures that will test how severely participants were impacted by the COVID-19 pandemic, and how involved and emotionally invested they are in the Black Lives Matter movement were added. I expect that (1) those who exhibit more severe depressive symptoms will use more negative self-focused language, and recall more negative memories, and (2) that negative language pattern will be stronger when individuals write about self-relevant and distant past memories. This study will provide a better understanding of the relationship between memory, depression, and language, which can improve linguistic models of depression by helping to detect vulnerability to depression in everyday language use. Findings from this project will ultimately take another step to developing better treatment and earlier detection of depression.

MONZERRATH RODRIGUEZ
Our Lady of the Lake University
The stimulation of memory through music with an impact on second language processes

Previous studies have looked at the impact that music has on cognitive development in language, such as syntactic and semantic structures. It is significant to emphasize that these two ways of communication share neural resources that improves one's educational abilities. This research contributes to the improvement of students' capacity to learn through music. The purpose of this research is to determine if memory through music facilitates the process of learning a second language. Research by James Posedel focuses on whether working memory capacity and/or pitch perception ability are possible mediators on the effect of musical training on second language phonological production. This method applies to my research by supporting the main ideas of the impact of memory through music. This research identified three important findings: 1) memory through music has little effect on learning a second language; instead, 2) pitch perception through music does impact learning a second language, and 3) there appears to be no difference on the recall process in students in elementary and middle school. Despite the body of evidence, more research is required to support the results of this study in order to implement new memory strategies in all educational levels.

July 30, 2020 - 2:00 PM PDT Breakout 10: Psychology and Cognitive Science Panel G

ROSALINA BURTON
University of California, Davis
Grandparent Social Support in Mexican American Families During the COVID-19 Pandemic

As a result of the COVID-19 Pandemic many families are experiencing high levels of stress. Social support has been linked to improved wellbeing and better navigation of life stressors but research is lacking in how stressful life events affect Mexican American families within a cultural and multigenerational context. Grandparents may play a protective role of wellbeing as a social support for Latina mothers. To test these associations, we examined grandparent social support during the pandemic and compared it to grandparent social support reported at an earlier date. In 2017 PI Dr. Leah Hibel launched The California Babies Project in which Latina mothers (n = 48) answered a Post-Partum Social Support questionnaire via home visit, referencing their parents and in-laws, when children were on average 15.7 months (SD= 5.5). During the California "shelter in place" mandate mothers answered questions via phone about their experiences of stress (Perceived Stress Scale), when children were on average, 36.6 months (SD = 15.3). The questionnaire was administered again after California began its reopening. Neither parent (r = -.20, p = .19) nor in-law support (r = .15, p = .33) was related to mothers' experience of stress during the "shelter in place" mandate. Further analysis of data will be conducted. Findings will be discussed within the stress and social support literature.

JENNIFER ESTRADA
Northeastern Illinois University
Graduate Students in Counseling Training Programs and their Perceptions of their Parents' Attitudes

United States is in need of Latinx professionals in mental health fields, who can support them, from a culturally informed perspective. Literature points that the number of Latinx studying counseling and graduating from counseling programs in the United States in 2016 were only 7.75% , and only 4.84% of faculty working in counseling education are Latinx. Research finds that Latinx students face barriers in graduate programs in mental health professions such as an unwelcoming environment, lack of diverse faculty members, and family stressors, including a lack of understanding of higher education in the United States or intergenerational immigration trauma. Research also found that Latinx parents struggle to understand the process of graduate school because family members may have not attended college. Additionally, investigators point that the Latino community faces many stigmas towards seeking mental health and fear of being titled as crazy. This research will examine how Latinx graduate students in mental health professional training programs perceive their parents' attitudes towards their graduate education. Using qualitative methods and semi-structured interviews, this research will explore the experiences of Latinx graduate students in the Counseling department at a Midwest Urban institution.   This research will provide information on how to increase the number of Latinx graduating from graduate school particularly in the mental health profession and provide ideas on how to improve the shortage of Latinx mental health professionals in the United States.

Abstract titles link to event detail pages.

VIVIAN NGUYEN
University of Nebraska–Lincoln
Associations between Job Loss and Parental Mental Health and Parenting Behavior during the COVID-19 Pandemic

The COVID-19 pandemic is a major health crisis that is affecting millions of people across the United States. The pandemic has been associated with widespread job loss and significant increases in Americans' reported stress and mental health symptoms. The current study examines how parental job loss is associated with parents' rates of depression, anxiety, and inconsistent and harsh discipline toward young children during the COVID-19 pandemic. First, I hypothesize that parents who experience job loss during the pandemic will report higher levels of depression and anxiety symptoms. Secondly, I hypothesize that parents who experience higher levels of depression and anxiety symptoms will report higher levels of harsh and inconsistent discipline. The study consisted of a socioeconomically-diverse sample of 250 parents with children in early elementary school. Parents reported on their depression symptoms, anxiety symptoms, and parenting practices during the first 3 months of the COVID-19 pandemic. The knowledge gained from this study of family experiences during the COVID-19 can be used in the future to inform communities and parents on certain practice interventions for children and families experiencing depression and anxiety due to a pandemic. The findings will assist with preventing adverse outcomes for parents and children and helping parents implement better coping mechanisms through extremely difficult times.

Abstract titles link to event detail pages.

July 31, 2020 - 9:00 AM PDT Breakout 11: Anthropology, Gender and Ethnic Studies Panel A

JOELLE JENKINS
University of Northern Colorado

Aspects of Identity that Inform Black College Students' Experiences and Consideration of the Natural Environment

Previous researchers have questioned whether people of color show concern regarding nature. Some studies suggested they do not show concern, while others suggest they are just as or even more concerned than their white peers. These studies did not examine the reasons behind having an affinity for nature, which is a problem because they did not thoroughly explain and provide context to those affinities. This research explores preferences and thoughts relating to black undergraduate students' experiences in the natural environment. In this study, we propose a new paradigm to understand how one chooses to interact with the natural environment. Understanding the factors involved will strengthen the awareness of underrepresented groups' attitudes and perceptions toward natural surroundings through use of an in-depth lens to advance the perspective of environmental attitudes. The aim of this study is to answer the question: "How does one's black identity inform their experiences with the environment, and why do they feel that way?" A thematic analysis of 10 interviews will take place to better answer this question. Anticipated topics include trends in knowledge, likes and dislikes, values and beliefs, and behavior related to identity and experience in natural settings. Preliminary findings from interviewees show that the word environment is associated with sustainability and environmental justice is associated with environmental racism. This study is important for addressing environmental issues in diverse communities because it allows voices to be heard so that they can be included in environmental decision-making.

KATHERINE SANCHEZ
Wayne State University

Physical and Emotional Demands on Latino/a Construction Workers: Understanding Immigrant Workers in the Industry

Two million Latino/a immigrants work in the construction industry, of whom 1.7 million lack U.S. citizenship. The emotional and physical demands of this industry are high, but scholars have devoted little attention to their impact on the Latino/a community. This study is an extensive literature review engaging associated bodies of literature that include literature on other immigrant-dense industries and the experiences and responses within, and literature on Latino/a immigrants more broadly. Moreover, adopting a critical positionality, I also draw on informal conversations with family and friends/personal experience to excavate insights about Latino/a immigrant experiences and responses in construction. Preliminary meta-analysis of this literature suggests that Latino/a immigrant construction workers experience greater emotional challenges than Latino/a immigrant workers in other industries and their non-immigrant peers. Factors that attribute to this dynamics gleaned from existing literature include: separation from friends and family, being in a new environment, workload demands that stress the body and mind, and the threats (physical and emotional) that linger in their day to day routines. Observing and studying the emotional and physical effects on immigrants throughout the construction industry may inform policy transformation and social advocacy throughout this sector. Further, this study forms the basis for future empirical work that would aim to examine how the demands of the construction industry impact immigrant workers, both physically and emotionally.

TIMOTHY VANZEBEN
University of New Mexico
Predicting Structure Form and Function on a Classic Period Pueblo Landscape

The Classic Period (AD 1345 – AD 1610) of the Middle Rio Grande region was a time of aggregation into larger settlement pueblos. Agricultural fields were occupied seasonally. Farmers would build field houses for shelter and storage during their semi-temporary stay away from the pueblo. Due to the ephemeral nature of farming in the Southwest, much of the improvements to the land are not easy visible. This research utilizes remote sensing technology to gather geographic attributes among field houses associated with the Pueblo of Tonque north of Albuquerque. This data will be input into a Geographic Information System (GIS) to display on a map where within the 9,000-acre study area it is most likely to contain field house. Satellite imagery will be accessed, and a Digital Elevation Model derived from publicly available LiDAR data will be used so that several geographic variables, such as aspect and slope, could be extracted from these sites. These variables are used to make general assumptions about where the structures are being located. Slope appears to have the greatest influence in structure placement with almost three-quarters of sites being situation on a 10% or less slope. Scatterplots of the data suggest clustering of some kind. Additional analysis of the imagery through object-based classification via GIS will be used to predict were on the landscape unknown structures should be found. This research helps to build on the sparse understanding that is currently known of the Middle Rio Grande.

July 31, 2020 - 9:00 AM PDT Breakout 11: Biology Panel B

NANZEEBA AHMAD
University at Buffalo, SUNY
An Assessment of EnhancerAtlas and REDFly Cis-Regulatory Module Predictions

Cis-regulatory modules (CRMs), also referred to as enhancers, are DNA sequences that regulate transcription by turning gene expression on and off. CRMs provide enough information to activate genes within specific tissues of an organism at specific times and locations, known as spatiotemporal control, during development. Due to their control of promoting gene expression, enabling spatiotemporal control of genes and developmental processes, their disruption can lead to disease. Despite their significance, their incorporation into the full genome annotation of multicellular eukaryotic organisms transcriptional cis-regulatory sequences are limited relative to knowledge of other genomic features. One way to determine CRM sequences is to predict them. An example of this is EnhancerAtlas, a comprehensive database of predicted CRMs for enhancer annotation based on various genome-wide profiling datasets across different species. REDfly is a database of empirically validated CRMs and includes information on DNA sequence, experimental evidence, and patterns of regulated gene expression. In order to assess the validity of these predictions, we are conducting an assessment of EnhancerAtlas CRM predictions and comparing them to the experimentally verified REDfly sets. We are looking at how well these predictions capture the set of the experimentally verified CRMs, and if conceivable, figure out which parts of the information going into the predictions are generally valuable.

KARRAR ALJANAHI
University at Buffalo, SUNY
The Role of Translation Initiation Factor 4A and its Interactions with Other Cellular Machinery

The central dogma of biology describes the pattern of information that occurs most frequently in our cells: DNA is transcribed into RNA, which is translated into proteins. Translation is the process by which the cell decodes a strand of mRNA to build a protein essential for cellular functions. This process is initiated by eukaryotic translation initiation factors (eIFs) which have a variety of functions aiding in the formation of an RNA-protein complex and positioning of the ribosome. One of those factors is eIF4A, which is a DEAD-box RNA-dependent ATPase responsible for unwinding RNA secondary structure in the 5' –untranslated regions of mRNAs promoting their recruitment to the pre-initiation complex. eIF4A is part of a larger complex, eIF4F, made up of other initiation factors that have a direct effect on the efficiency of eIF4A. For example, the physical interaction between eIF4A and eIF4G results in a large stimulation of eIF4A's ATPase and RNA unwinding activities. By establishing a better understanding of these interactions and functions, involving the initiation factors models can be created to help unravel the intricacies present in translation.

DESTINY CAMBERO
University of California, Davis
Developmental Exposure to Ozone Changes Expression Patterns of Xenobiotic Metabolizing Enzymes in the Distal Airways

Ozone exposure decreases peak lung function in humans and may be associated with structural changes in the distal lung. Our prior work established that early life ozone-exposure induces abnormal lung growth. This study will investigate how these changes occur by examining the expression of key Phase I and II enzymes that metabolize and detoxify chemicals. Although their main role is to detoxify chemicals, including ozone, these enzymes may also produce harmful metabolites. Female rats were exposed to 0.5 ppm ozone from postnatal day 7 to 28 or to filtered air (FA). Samples were taken 3-4 days post-ozone exposure (juveniles) and after recovery in FA (adults). We assessed conducting airway and alveolar gene expression in the juvenile lung using microdissection and qRT-PCR as well as global expression patterns determined using 3' tag seq. Genes involved in the production of metabolizing enzymes (Cytochrome P450 enzymes, Phase I) were significantly different between ozone and FA exposed groups. Airway antioxidant enzyme responses (Glutathione S-transferase Pi, GST-pi, Phase II) were measured using qRT-PCR. GST-pi was increased in the proximal airways and reduced in the distal airways of females exposed to ozone. Ozone changes the balance of lung activating (Phase I) and detoxifying (Phase II) enzymes.

Abstract titles link to event detail pages.

July 31, 2020 - 9:00 AM PDT Breakout 11: Clinical Medicine, Dentistry and Public Health Panel C

JAQUELINE LOPEZ SANTIAGO
University of California, Santa Barbara
Teacher Perspectives: Social Acceptability of Universal Screening for Preschool Children

The success of school-based universal mental health screening is contingent on the support of teachers who fill out evaluations on the students behalf. This study included teachers in the Santa Barbara Unified School District who consented to participate in the universal screening of elementary aged students. In addition to the screening forms and demographic information, teachers were asked to complete a questionnaire pertaining to their perspective and willingness to participate in the evaluation of mental health in school settings. Implementing universal screening in schools involves the assistance of multiple stakeholders who are currently neglected in the literature, thus this study aims to provide additional understanding on teachers' perspectives. Understanding teacher perspectives on universal screening is important for evaluating, informing, and improving the implementation process.

GISSELLE MORENO
California State University, Long Beach
Morningness/eveningness, diet and adiposity in Latino Children

Chronotype refers to biological differences in individual sleep-wake patterns and alertness which is characterized along a continuum between morningness and eveningness. Compared to morning types, evening chronotype has been associated with unhealthy dietary behaviors which can increase obesity risk. While childhood obesity disproportionately affects Latino youth, few studies have examined the interrelationships among chronotype, dietary behaviors and obesity in Latino children. Identifying the impact of morningness/eveningness on nutrient intake in Latino children may inform dietary strategies that can improve obesity prevention efforts for Latino children. This study examined whether morningness/eveningness was related to fat and sugar intake and adiposity indicators in Latino pre-adolescents. Pearson correlations were conducted on data from self-report surveys, 24-hour diet recalls, and anthropometric measures of 100 Latino children (10-12 years) living in Long Beach and surrounding cities. Results indicated no significant correlation between morningness/eveningness and macronutrient intake of fat (p=.258) or sugar (p=.163), nor with BMI percentile (p=.461) or percent body fat (p=.282). Our results are contrary to previous literature that supports an association between chronotype and dietary intake. While 24-hour diet recalls are known as valid measures of dietary intake, ability to recall and estimate amounts may have reduced accuracy of dietary data. To obtain a more accurate reporting of dietary intake, future studies should include proxy-assisted recalls, portion size training, or objectively measured dietary intake in a lab setting. Calculating midpoint of objectively measured sleep may also be beneficial to enhance chronotype assessment.

GLENNYS CAMPA-RUBIO
California State University, Long Beach
A Literary Analysis of Pediatric Practices around Nutrition in Primary Care

In the last two decades, there has been a public health push towards improving children's diets in order to meet the adequate amount of their recommended nutrient needs. A literary analysis was conducted on 11 articles. The literature analyzed focused primarily on studies that have been held to better understand the importance of early nutrition and feeding habits. The literature suggests that recommendations given by Pediatricians regarding food practices are often the only kind of nutritional counselling parents receive. Furthermore, having access to a Registered Dietitian (RD) is especially attributed to beneficial food changes made in the household.

July 31, 2020 - 9:00 AM PDT Breakout 11: Communication, Economics and Geography Panel D

ELIZABETH OLIVAREZ
Our Lady of the Lake University
Post COVID 19: Analyzing Speech-Language Pathologist Tele-therapy Practices in South Texas

The COVID-19 pandemic has led 58% of Speech-Language Pathologists (SLP) to transition into using tele-therapy rather than their usual face-to-face therapy (FTF), as a result of the limited flexibility in FTF interactions (ASHA COVID-19 Survey Results - May 2020, n.d.). Past studies have documented that SLP's face many challenges using tele-therapy, that has ultimately produced a minimal application within their practice when providing service to these particular populations. As such, the purpose of this study is to analyze tele-therapy practices and effects on SLP's, with a special focus on underserved populations (e.g. low-income, rural, minority, etc.). Data collection will include a survey with questions to include demographics, attitudes and perceptions about telehealth, and populations served. Data collected through the survey will be quantitatively analyzed to determine SLP perspectives and potential complications faced when SLP's utilize tele-therapy to provide services. This study also seeks to determine factors that influence the slow uptake of this service method. This research study hopes to augment solutions for improved therapy opportunities for underserved populations and enhance SLP's understanding of diverse client needs.

MYA TAYLOR
Kent State University
Influence of COVID-19 on the School Base Practice of Speech Language Pathology

The COVID-19 pandemic has highlighted discrepancies in education and health care. This project aims to identify similarities and differences in the service provision of speech-language therapy across three educational entities during the pandemic. Speech language pathologists working in one urban, one suburban, and one rural school districts will be surveyed regarding their experiences of providing telepractice (remote) therapy to children within their districts. Survey results will be analyzed quantitatively (ANOVA) and examined with a discussion of educational equity and access.

VANESSA VIRAMONTES
University of New Mexico
Experiences of Latinx Families in Speech Therapy

Latinx families are under-represented in university research in communication science and disorders. As a result, our best practices for guiding treatment excludes a large population of our community. More information regarding the experiences of Latinx families regarding speech therapy is needed. This research conducts a series of interviews within Latinx families in Albuquerque, New Mexico to understand the experiences they have had with speech therapy for their children with speech delays. Ethnographic interviewing will be used to interview the participants of this study. The interview responses will be analyzed to determine common themes. We will use this knowledge to inform best practices for cultural competent speech services and to aid in reducing barriers in access.

Abstract titles link to event detail pages.

July 31, 2020 - 9:00 AM PDT Breakout 11: Education Panel E

SAVANNAH ANDERSON-KNIGHT
The University of Texas at Austin
I'm Not One of Your Little Friends: Teacher Identity and Black Student Experiences in Race/Racism Courses at a PWI

This paper will examine how Black college students at predominantly white institutions (PWIs) experience course curriculums about race and racism, as well as the role teacher identity plays in these experiences. Using semi-structured zoom interviews, students will discuss their assorted experiences in college courses related to race and racism. Guided questions will help explore the role teacher identity played in their experiences. Data from the interviews will be sorted into various thematic groups and analyzed further through the lenses of critical race theory and culturally relative pedagogy. I expect to find correlations between teacher race and the types of student experiences, as well as generational gaps in communication. Further research might explore ways to mitigate the findings of this study.

XOCHITL BRISEÑO
University of California, Santa Barbara
The Latino Male Experience at an HSI: Exploring How High Impact Practices Influence Their College Success

Reviews of Latinx degree attainment data shows there is a growing gap between Latino males and females at four-year institutions. The educational system is falling behind in the retention of Latino males' students in higher education, as well as giving them a valuable education. Effective educational practice demands consciousness from the institution. Certain universities have obtained the title of being a Hispanic Serving Institutions (HSI), which are a powerful instrument for examining how Latinx students enroll, are retained, and graduate. This study aims to understand the experiences of Latinx students with High Impact Practices (HIP's) at a newly designated research-intensive HSI. In order to understand how Latinx students see HIP's as institutional enablers of achievement, this study utilizes the qualitative analysis of thirty-two interviews conducted in Spring 2018 with second year undergraduates. A novel aspect of this study is to focus particular attention on the influence of male identity on academic engagement. Four Latino males of this initial sample were interviewed two years later. All from low-income families and rural environments, these undergraduates entered the institution just as it received its funding and status of HSI. The findings presented explore the socio-cultural factors, peer dynamics, and existing institutional barriers that may be explanations for this persisting and troubling trend. This study contributes to the ongoing discussion of how HSIs can promote enriching race-conscious educational experiences rather than traditional norms of academic success.

EUGENE MCADOO
University of California, Los Angeles
Segregation: Examining the effects of school segregation on the college readiness of Black and Latinx LAUSD Graduates

California's education system has continually failed to improve academic outcomes for Black and Latinx students attending its most disadvantaged schools. The overemphasis on increasing funding as a solution to improving academic outcomes for students from impoverished and underperforming schools has led to policymakers overlooking a variety of other factors that perpetuate unequal outcomes, specifically school segregation (Kucsera et. al, 2014; Johnson, 2019). A recent study from the Civil Rights Project at UCLA, found that roughly two-thirds of Black and Latinx students in the Los Angeles Unified School District (LAUSD) attended "intensely segregated schools", where 90-100% of students are minorities, compared with just 12% for Asian students and 5% for white students. Due to the fact that segregated schools face more challenges and fewer learning opportunities, students that graduate from segregated schools enter college less academically prepared than those who attend "integrated schools" (Kucsera et. al, 2014, Massey & Fischer, 2006). Utilizing a Critical Race Theoretical (CRT) framework, this study employs semi-structured interviews to examine Black and Latinx LAUSD graduates' perceptions of their college readiness upon entry into the university as freshmen and the relationship between their college readiness and experience with contemporary school segregation. The troubling data regarding LAUSD and its segregated schools highlight a need to examine the consequences of school segregation within LAUSD and its relationship with college readiness in order to prevent more students' future educational opportunities from being severely limited due to continued school segregation.

Abstract titles link to event detail pages.

July 31, 2020 - 9:00 AM PDT Breakout 11: Psychology and Cognitive Science Panel F

AYLIN CASTILLO
Texas Tech University

Analyzing Gender Roles and Parent- Child Relationships as Potential Factors in the Mental Health and Well-being of Latinx Adolescents and Emerging Adults

This study examines how specific gender roles, acculturation differences, and parent to child relationships affect the mental health and well-being of adolescents and emerging adults of Latinx descent. Adolescents and emerging adults of Latinx Mexican descent deal with depressive symptoms, low self-esteem, and low life-satisfaction due to discrepancies among parent-child relationships and family dynamics. The importance of the research is to analyze the aspects of specific gender roles and the family dynamics that improve or deteriorate the mental health and well-being of adolescents and emerging adults of Latinx descent. Surveys and questionnaires will be used as the main platform to conduct this research. Results have not been concluded at this time, but we hypothesized that the quality of both mother to child and father to child relationships will promote greater life satisfaction and greater self-esteem and will decrease depressive symptoms. Further implications for this study include analyzing how parent to parent relationships affect the overall mental health and well-being of the Latinx adolescent and emerging adult population.

GRACE DENNIS
The University of Texas at Austin

The Role of Past Parental Discriminatory Experiences on Parents' Gendered Educational Expectations, Children's Educational Expectations, and Children's Educational Achievement in Black Families: Findings from the National Longitudinal Survey of Youth

According to the Expectancy-Value Theory, parental expectations for children's success can influence children's expectations, behaviors, and eventual achievement. Parents' educational expectations for their children are generally high, regardless of children's academic performance. In comparison, Black boys are routinely held to lower educational expectations even when controlling for academic performance. The Expectancy-Value Theory additionally suggests that expectations for success and children's eventual achievement can be influenced by cultural beliefs. Previous research posits that concerns about heightened risks of discrimination and academic failure for Black boys may explain this trend of lower expectations. The association between parents' discriminatory experiences, concerns, and parental behavior has been substantially investigated. However, the relationship between parents' discriminatory experiences and educational expectations remains largely unexplored. The purpose of the current study is to examine how parents' experiences with discrimination, parents' educational expectations, and children's educational expectations are related to children's academic achievement. The influence of gender on the relationship between parents' discriminatory experiences and educational expectations will also be investigated.

Abstract titles link to event detail pages.

AMYIA HARRIS
University of Nebraska–Lincoln
Parental Control during Homework Help Tasks of Children: Moderation by Learning Difficulties

Children with learning difficulties, such as spatially disorganized handwriting, reading slowly or making careless errors in math, experience academic challenges as they progress through school. In particular, children who exhibit learning difficulties struggle to complete homework independently and often require parental involvement to be successful. However, parental involvement differs by family socioeconomic status (SES), such that higher-SES families have more time and resources to help children with schoolwork than lower-SES families. The current study explored whether learning difficulties were associated with observed levels of controlling and autonomy-supportive parenting during a homework help task and whether family SES moderated this association. I hypothesize that children's learning difficulties will be positively associated with controlling parenting and negatively associated with autonomy-supportive parenting during the homework help task. Further, I hypothesize that families' SES would moderate the association between learning difficulties and parenting, such that lower-SES families will be less likely to demonstrate controlling parenting than higher-SES families when children have learning difficulties. The sample included 170 socioeconomically-diverse families with a second-grade child. The parent and child completed questionnaires and a parent-child interaction task designed to imitate the child completing homework during a visit to a university laboratory. Parents rated their children's learning difficulties and reported on their family SES as indexed by household income and parental education. Parent-child interactions were videotaped and coded for levels of controlling and autonomy-supportive parenting. Implications include parental education on how to best support children with learning difficulties during homework, particularly for low-SES families.

Abstract titles link to event detail pages.

July 31, 2020 - 9:00 AM PDT Breakout 11: Psychology and Cognitive Science Panel G

LORAINE GUDINO CUEVAS
Westminster College
"To Feel or Not to Feel": Effects of Emotion Regulation on Adolescent Mental Health

Emotions are a complex set of reactions in which a person attempts to deal with a significant matter or event. The way in which one expresses their emotions can have an effect on their psychosocial and physical well-being. Recent research has focused on emotion regulation strategies in order to understand how people manage their emotions. Previous studies have found that emotion regulation strategies may implicate various internal and external disorders. Although studies on the implications of emotional regulation strategies exist, few studies have examined these implications during adolescence, which is a time where emotional responses are heightened and there are greater chances for the onset of depressive symptoms. As adolescents attempt to manage the flux of emotions, concerns begin to arise in terms of how the regulation of these emotions may relate to internalizing disorders. The present study investigates these concerns by analyzing the use of common emotion regulation strategies, namely cognitive reappraisal and expressive suppression as they relate to depression and anxiety in adolescents. The Emotion Regulation Questionnaire, Kutcher Adolescent Depression Scale, and the abbreviated Spence Children's Anxiety Scale, will be administered to 100 participants aged 13 to 18 to determine any correlations. In examining the way that adolescents regulate their emotions, this study will aim to better understand the emotional development of adolescents and may in turn result in better prevention of various mental health outcomes.

TAMIA JACKSON
The University of Texas at Austin
Emotion Regulation in Emergency Service Jobs

Black women are said to go through a process of "ungendering" and are expected to adhere to the Strong Black Woman (SBW) stereotype which reflects an expectation emotionally strong. Gender and emotion stereotypes tell us who should and who should not show certain emotions. These stereotypes typically center around men's crying and women's anger. I infer that as Black women are "ungendered" they would not be held to the same standards as their white counterparts in terms of displays of emotions. The present study seeks to investigate how women's crying behaviors in a gender-stereotyped emergency context may be perceived differently when the target is Black compared to a white woman. To measure participant perception of target emotional appropriateness, we will use four items from the perceived appropriateness subscale of the Evaluations of Emotional Behaviors Questionnaire (EEBQ). We will also use measures to assess perceived Emotional Strength and Workplace Status of the target. Lastly, we will assess participant endorsement of gender stereotypes so that we may see if any differences in participant perception of target crying behaviors can be attributed to target race and/or gender. I predict that participants will perceive crying firefighters who are Black women (or perceived as Black women) to be more emotionally appropriate/emotionally strong than those who are nurses. Beyond that, for both occupations, I predict that participants will perceive Black women to be less emotionally appropriate/strong than white women as a result of implicit biases regarding the SBW stereotype and the ungendering of Black women.

OLIVIA BOBBITT
University of Northern Colorado
Stages of Racial Identity Development Among Multiracial Undergraduates

The number of individuals who identify as multiracial has been on the rise since interracial marriages became legal in 1967. However, it wasn't until the 2000 U.S. Census that "two or more races" became an option with which individuals could identify. It is a relatively new concept that requires further study, as previous research has focused on individuals whose racial heritage is a mixture of Black and white. While this research is informative, it fails to incorporate individuals that identify as two or more marginalized racial identities such as Black/African American and Hispanic or Asian Pacific and Native American. The current study addresses this gap in research by focusing on individuals who identify as two or more marginalized racial identities and how that influences their racial identity development. This study qualitatively explored the life experiences of racially mixed marginalized individuals through 45 to 60-minute semi-structured interviews. The research question for this study was: How does identifying as multiracial with two or more marginalized races influence an individual's racial identity development? Through Poston's Biracial Identity Development Model, participants' responses were compared to each stage of this model to determine if this model relates to racially mixed marginalized populations. This study yielded significant results when comparing Poston's model to racially mixed marginalized individuals. Overall, the participants in this study experienced the stages of Poston's model with a few exceptions, such as the flexibility in their racial identity and society's role in determining one's racial identity.

Abstract titles link to event detail pages.

July 31, 2020 - 9:00 AM PDT Breakout 11: Sociology and Public Affairs Panel H

PEDRO RICO
Westminster College
Juvenile Justice

The juvenile justice system in the United States has been around approximately 120 years operating through a retributive paradigm. This model of punishment has harmed incarcerated youth by removing them from their communities and has obstructed their emotional and social development preventing youth from properly reentering back to their community. Restorative approaches serve as an alternative to the current system of punishment and it has been growing in popularity in recent years. The purpose of this study is to explore the use of restorative practices such as using community circles as a way to bring diverse groups of people to participate in a collaborative dialogue while exploring their perceptions of punishment. I will be conducting an exploratory case study using semistructured focus group interviews with 5-8 people who have been formally incarcerated as juveniles, parent(s), educational instructor(s) (K-12), a community member, correction officers, and a policymaker. My expected results will be that people who participate in the community circle will have their perceptions change towards the juvenile justice system because of collaborative dialogue. Implications for this study will build the case for stronger community interventions around harm reduction by using restorative techniques that build community by encouraging interaction and engagement.

RYAN RISING
University of California, Santa Barbara
The Rise of The Movement Against Mass Incarceration: A Case Study on The Formation of The Underground Scholars

Within this case study, I will present the rise of the movement against Mass Incarceration and the formation of the Underground Scholars Program, which provoked institutional changes within the prison industrial complex and also the University of California system. Creating a pathway for formerly incarcerated individuals into higher education and becoming a 'hook for change.' The Underground Scholars Program is building a prison to university pipeline through recruitment, retention, and advocacy. With the goal of ending the vicious cycle of recidivism through higher education. I will use mixed methods to analyze the history of the movement against mass Incarceration and the formation of the Underground Scholars. I will analyze the positive outcomes that have evolved out of the movement against mass incarceration. I will look at all the success that the Underground Scholars have created within the lives of formerly incarcerated students becoming a desistance gateway. I will articulate the barriers and obstacles that still stand in the way. I will put forth solutions and innovative ideas that will help shape institutional changes within academia to prepare it for the rapid flux of formerly Incarcerated students that will be enhancing the Universities in the next ten years.

Abstract titles link to event detail pages.

TARYN WILLIAMS
California State University, Long Beach
The rising scholars: unemployment among the formerly incarcerated population

Studies indicate that the odds are overwhelmingly against former foster youth completing college, heroin addicts getting clean, and formerly incarcerated persons successfully reentering their communities. There is a societal misconception that the abovementioned lack intellectual ability. Such misconceptions are oppressive and serve as barriers to human growth along two-dimensions. First, people on the fringes of society are judged through a bias lens. Second, that bias informs a lack of expectations of those society deems as intellectually incapable. This is manifested in high rates of unemployment among populations whom need it must for upward mobility. As a former foster youth with a college degree who is also formerly incarcerated and a recovering heroin addict, my intersecting identities provide a rare auto-ethnographic lens through which to understand the agency that bias, judgement, and lack of expectations employ as mechanisms of oppression. A review of the literature was employed to support a personal understanding of my experiences and the claims I put forth. Lastly, Attribution theory is applied to garner an understanding of how society comes to understand the behaviors of others by attributing certain characteristics to them. Bias, judgement, and lack of expectations hinder the upward mobility of those who have experienced significant hurdles in their lives. Improving workforce opportunities through fair-hiring practices that reduce bias; educational opportunities that promote inclusivity and facilitate student success for non-traditional student populations; and community support systems humanizes rather than demonizes those trying to better their lives, families, and communities. Our collective goal as a community should be to shatter the misconception that people are incapable of change or escaping their circumstances.

July 31, 2020 - 10:30 AM PDT Breakout 12: Atmospheric and Environmental Science Poster Session A

NATALIE JAMES
Southern Nazarene University
Scolytinae Species Distribution at Varying Elevations in a Costa Rican Montane Cloud Forest

Due to its inverse relationship with temperature, elevation is a driver of biodiversity (Roder et al, 2016). The effects of temperature and elevation on biodiversity in the tropics have gained considerable attention from ecologists; as the relative stability of year-round temperature   allows for less confounding conclusions to be drawn from biodiversity experiments across elevational gradients. Following a preliminary study by Rosenberger et. al, we measured the abundance and diversity of Scolytinae (bark beetles) across a 1000m elevation gradient in a primary montane cloud forest in Costa Rica. We constructed 20 traps and placed them along two trails, every 50 meters in elevation from ~3050 meters to ~2120 meters, between January and March of 2020. After the collection week was over, we retrieved the beetles from the trail and transferred them to an ethanol preservative to be stored for future identification. When all sampling rounds were completed, the beetles were photographed and examined for species identification. A total of 776 beetles were collected: 260 from the first round, and 516 from the second. The trap residing at ~2250m possessed the greatest beetle abundance and richness. We found fewer beetles and less species richness at higher elevations. While we greatly increased the sample size of Rosenberger's project with this sampling effort of bark beetle populations in the region, more work is needed to make definitive conclusions as to the range, abundance, and diversity of bark beetle species in Costa Rican, montane cloud forest environments.

KELSEY PEREZ
University of Central Florida
Impacts of Climate Change on Coastal Erosion

The world has been transitioning away from fossil fuels due to the large amounts of greenhouse gas emissions. The use of renewable energy resources, like wave power, has been increasing over time. Wave energy converters (WECs) function by extracting energy from waves to convert it into electricity in order to support local communities. There are many types of WECs that accommodate different wave climates and beach profiles, accounting for various factors such as wave heights, wind speeds, sea levels, and sediment transport. Through the extraction of wave energy from WECs, the dissipation of wave power can reduce wave heights. As a result, WEC farms can act as coastal defense mechanisms against erosion due to the reduction of wave power. In this study, we use a wave and sediment transport model, XBeach, to assess the potential morphodynamic impacts on the coastline with the presence of WEC farms. We examine the effects while considering the effects of climate change, which have direct and indirect impacts on wave energy and coastal erosion. We aim to show how climate change impacts that can intensify the effects of hurricanes may impact erosion on the coast. Additionally, we aim to show the potential of WECs to reduce erosion in both present and future climate scenarios. We use Hurricane Katrina as a case study.

DAVID RAMIREZ
Loyola Marymount University
Mapping Marine Environmental Changes Along the Southern California Pacific Coast

Across the Pacific Coast of the United States exist two competing mussel species that vary in their environmental stress tolerance and have shifted their species range due to climate change. The blue mussel, Mytilus trossulus, was native to Southern California but is now found only north of San Francisco to Alaska. In comparison, Mytilus galloprovincialis, invaded from the Mediterranean and now is found throughout Southern California. How warm does the water need to be before heat stress tolerance is ineffective for M. galloprovincialis? We hypothesized that if water temperature increase past 30°C, M. galloprovincialis population may decrease. To understand the potential effects of climate change driven environmental stressors, the current and historical changes in environmental conditions were mapped out. Seawater temperature data from 2010-2020 was downloaded from the NOAA Tides and Currents website. Seawater temperatures (°C) of the most northern (Santa Monica) and southern (San Diego Bay) region of Southern California were compared and it was found that Santa Monica (T = 17.4, Tmax = 25.6, Tmin = 8.2) and San Diego Bay (T = 19.4, Tmax = 27, Tmin = 13) differed in the mean, maximum and minimum temperatures recorded over the decade, with San Diego Bay being warmer. Thus, the distribution of the M. trossulus most likely shifted north due to the decreased availability of cooler seawater in the southern region, which may continue to decrease as seawater temperature increases across the coast. M. galloprovincialis will continue to thrive in the southern region as the ocean becomes warmer and favors their survival.

Abstract titles link to event detail pages.

KEEBY TIE

Loyola Marymount University

Mapping Marine Environmental Changes Along the Pacific Coast: Santa Barbara to the central coast

By 2100, ocean temperatures are expected to climb 1.5-2.0 °C. Many animals will be affected, especially ectotherms such as mussels, which rely on external sources of temperature regulation. Evidence shows a shift in the geological distribution of Pacific Coast native Mytilus trossulus and the invasive M. galloprovincialis. This shift is due to physiological stress from changing ocean temperatures).The purpose of our research is to identify changes in ocean temperatures from locations across the Pacific Coast of California (Redwood City, RC; Monterey, MT; Port San Luis, PSL; Santa Barbara, SB) and combine this with our understanding of mussel environmental stress tolerances to predict future changes of each species' range. We collected data on seawater temperature (°C) (2010-2020) from NOAA coastal stations spanning the species' current range and combined these data with thresholds of heat stress tolerance for each species from the literature. Literature analysis revealed that M. galloprovincialis has greater heat stress tolerance (Ton: 24°C, Tmax: 30°C) compared to M. trossulus (Ton: 24°C, Tmax: 28°C). We discovered that the seawater temperature at RC (SD: 4.08, min: 8.2°C, max: 25°C) is likely to be the most stressful site due to large variations in temperature and comparatively higher max temperature, while MT is likely the least stressful site (SD: 1.60, min: 9.7°C, max: 19.6°C), and PSL is moderately stressful (SD: 1.77, min: 7.6°C, max 20.8°C) (no data available for SB). Thus, RC and PSL are [MOU3] most likely sites dominated by M. galloprovincialis, while M. trossulus may be dominant at MT.

OBSMARA ULLOA

Notheastern Illinois University

Developing a Real-Time Weather Museum Touchscreen

Due to the technical nature of scientific research and the applications produced from such discoveries, it can be challenging to communicate essential breakthroughs with the general public. Effectively disseminating scientific findings amplifies the benefits of the work performed by the scientific community. Considering this, our goal of developing a new touchscreen interface that displays real-time weather data aims to deliver a user-friendly and educational kiosk application. This display will allow users access to current weather conditions at locations throughout the United States, provide supportive information about its use of existing weather data, and will offer weather-map features such as temperature, precipitation, and wind visualization patterns for users to view. To accomplish this goal, under the guidance of staff from the UCAR Center for Science Education, Unidata, and Computational Information Systems Laboratory, requirements for the application were gathered via virtual user interviews. The mockup created for the development of this application was derived directly from the interviews conducted. Including the user interviews, the app was also adapted around an existing tool, the Integrated Data Viewer (IDV), produced by the Unidata team at the National Center for Atmospheric Research (NCAR). The IDV, which is currently used by university education environments, allows access to many real-time and archived datasets and for 3D-geoscience visualization and analysis. This new real-time weather museum touchscreen display will undergo further usability testing to eventually join other weather and climate exhibits at NCAR's Mesa Lab in Boulder, CO, and at the NCAR-Wyoming Supercomputing Center Visitor Center in Cheyenne, WY.

Abstract titles link to event detail pages.

July 31, 2020 - 10:30 AM PDT Breakout 12: Biology Poster Session B

SHEILA DUONG
University of Wisconsin-Madison
Molecular and Genetic Analysis on Nerve and Schwann Cell Renewal During Zebrafish Fin Regeneration

Schwann cells (SCs) are the primary glia cells that wrap the nerves to form the myelin sheath in the peripheral nervous system. SCs play critical roles in the development, function and regeneration of peripheral nerves. Recent studies also have implicated that upon appendage amputation, nerves interact with SCs to secrete paracrine factors that facilitate appendage regeneration. However, the biology and dynamism of the SCs in appendage regeneration remains poorly understood. To investigate this, we will generate a transgenic zebrafish line to visualize SC behavior in vivo. Combined with confocal and live imaging systems, this transgenic line will extend our understanding on how SCs implicate appendage regeneration. We will also analyze transcriptional change of SC-associated genes during fin regeneration. We hypothesize that SCs regenerate through dedifferentiation of preexisting SCs. If genes expressed in mature SCs are downregulated upon fin amputation but return to the normal levels at the completion of fin regeneration, then these results indicate that new SCs are replenished. If genes expressed in repair SCs are upregulated upon fin amputation, then these results provide evidence of reprogramming of mature SCs to repair SCs upon fin amputation, which provide evidence of dedifferentiation or transdifferentiation of SCs.

KAYLA MEDINA
University of Colorado, Denver
Understanding the Association Among Environment, Microbiome, and Golden Retriever Health

Golden Retrievers across the United States suffer from increased adverse health outcomes due to obesity. However, there has been limited study of the link between environmental factors such as diet and microbiome, and how that might affect dogs who suffer from an adverse health outcome. Given the fact that there is a strong association between microbiome composition and body condition in humans and mouse models, we hypothesized that there is a relationship among diet, microbiome, and adverse health outcomes in dogs. To begin to explore this hypothesis, we utilized high throughput 16S rRNA gene sequencing methods. Using a Course Based Undergraduate Research Experience in General Biology labs, we have characterized the microbiome composition of 400 Golden Retriever fecal samples with replication. Our work is one of the largest samplings to date to characterize the common microbes found in a single dog breed and lays the groundwork for understanding associations among variation in microbiome composition and environmental factors.

RALPH SEIGNON
Kean University
Division of Labor Among Leafcutter Ant Subcastes

Leafcutter ants (Hymenoptera: Formicidae: Attini) are agricultural invertebrates that cultivate and depend on various fungi for survival. They are also among the few social insects whose worker caste forms separate physical subcastes. Analysis of specimens of Atta cephalotes studied in Costa Rica in 2013 allowed for classification of tasks among these physically distinct workers. Subcastes of A. cephalotes vary in characters such as mandible length, head width and body mass. It was found that in the sample population, that there was a high frequency of media workers at 70 percent, while no major workers presented. A high correlation was found with specimens whose head width exceed 1.1 mm and directly relates to subcaste distribution of fungi tending, foraging and defense. Mass of cargo did not directly correlate with ant size and this may be attributed to reducing the risk of parasitism, caloric expenditure and time of foraging. This study will provide information on the adaptative measures and behavioral cues that ensure the success of attine colonies in tropical locations.

STELLA VERA-GARZA
Kean University

Biodiversity Assessment of Epigaeic Ants (Hymenoptera: Formicidae) in the Maquenque Ecoregion of Northern Costa Rica

Ants (Hymenoptera: Formicidae) are among the most abundant terrestrial organisms on Earth and vital players in maintaining healthy ecological communities. Ants play major roles in predation, seed dispersal, soil enrichment, waste management, and many other processes, and an understanding of their community composition will allow for better conservation decisions. The diversity of epigaeic (surface-dwelling) ants was assessed at Laguna del Lagarto Lodge in the Maquenque Ecoregion of Alajuela Province, Costa Rica in 2010 and 2013. This is the first detailed assessment of any component of the Maquenque ant fauna. Primary forest was sampled with baited, pitfall and pan traps, in addition to hand collecting and Winkler funnel litter sampling. Sixty-four species, distributed among six subfamilies, were collected. Whittaker and rarefaction curves, as well as various diversity indices, suggest an under sampled fauna with high biodiversity. This assessment is essential for providing a baseline for future conservation and management decisions for the newly-protected Maquenque ecoregion.

Abstract titles link to event detail pages.

July 31, 2020 - 10:30 AM PDT Breakout 12: Chemistry and Biochemistry Poster Session C

SARAH ELAM
Southern Nazarene University
Modeling Catalase Spartan Student Edition

Catalase is an important anti-oxidant enzyme that degrades hydrogen peroxide into water and oxygen preventing the formation of damaging free radicals. This is a concept introduced in undergraduate courses and labs. In this study, Spartan Student Edition was utilized to develop a simple model for mechanistic steps known to occur in the active site of the enzyme. The roles of imidazole and iron in the reaction were explored and modeled.

GILLIAN GOMER
University of Central Florida
Morphometric Analysis of Acer Leaves

This project is a subset of a larger aim to characterize leaf morphology across 16 major genera of woody shrubs and trees in order to better understand the diverse developmental patterning and environmental impacts on plant phenotype on a species and individual level. Leaf samples for 55 Acer species were obtained and scanned from the worldwide collection in the Arnold Arboretum of Harvard University in August 2016. From the scans we utilize MASS (Morphological Analysis of Shape and Size) software to perform elliptical Fourier analysis to obtain normalized leaf outlines and mean leaf shape for individuals within Acer. Additionally, we perform Principal Components Analysis to understand leaf morphospace on an individual, species, and genus level. Preliminary analysis demonstrates the vast variability within and across Acer species. Morphometric data within Acer will then be compared to other genera to shed light on the evolutionary confines of leaf-shape variability within woody plants. Leaf samples from multiple continents allow for a comprehensive dataset that can serve as a reference and foundation to future leaf morphometric projects.

JAMES GREEN
Stanislaus State University
Discovering the Limits of CRISPR for Plasmid Mutagenesis

This project uses the CRISPR/Cas9 system to precisely cut and mutate plasmids in E. coli. Editing bacterial plasmids with CRISPR has not been well documented, and discovering necessary conditions and limits that result in successful mutations would prove useful for the microbiology and biosynthetic fields. This project aims to investigate the effects of different target sites for specific mutations as well as the effects of varying mutation size and its effect on the success rate of mutagenesis.

JOHN MOLTHEN
Stanislaus State University
Measuring the Stability of p65 via Fluorescence

NF-kB is a very important protein in tumor cells. One of its main activities is to block apoptotic events, which allows for the prolongation of cancer cell lifetimes [1]. The mechanism of NF-kB is activated by TNF signaling [2]. In this mechanism two of NF-kB's subunits, p65/relA and p50, are released and begin to transcribe DNA. Both ER stress and the Unfolded Protein Response (UPR) are large factors in cancerous cell and can lead to the activation of NF-kB as well [3,4]. The ER stress comes from unfolded proteins and then activates the UPR, which then sends the cell into apoptosis. This doesn't quite happen though as the activities of the UPR and NF-kB end up prolonging the life of the tumor cell [1,5]. This suggests that NF-kB activity is crucial to cancer cell survival and that with a better understanding of its mechanism it will be possible to halt cancer cell proliferation.

Abstract titles link to event detail pages.

KILINOELANI MONTGOMERY
University of Colorado, Denver
Computation of Host-Guest Free Binding Energies with a new Combined QM-MM Mining Minima Method

Some drug molecules are hydrophobic, therefore insoluble in the human body. Drug carriers have hydrophilic and hydrophobic character, therefore drug molecules can be encapsulated in these systems which improves their solubility in and bioavailability as they travel to the target site. Since drugs are bound to the carrier through noncovalent interactions, the binding energy between them is difficult to predict accurately. The VM2 software utilizes molecular mechanics (MM) methods to predict the binding energy between a host (drug carrier) and a guest (drug). A combination of QM and MM is important to develop accurate yet cost beneficial software. The QM-VM2 scheme searches for host-guest conformers using an MM mining minima method, then runs QM calculations to get accurate free binding energies. The resulting software will aid drug developers and minimize computational cost.

Abstract titles link to event detail pages.

July 31, 2020 - 10:30 AM PDT Breakout 12: Math, Stats and Physics Poster Session D

BRYCE HOLLOWAY
The University of Texas at Austin
Modeling of Single Top Quark events produced in association with Photon with different MC generators

The production of a single top quark in association with a photon (tq$\square$) is predicted in the Standard Model (SM), but has not been observed yet. I am investigating the modeling of this process using MadGraph5 and Pythia8 generators. At leading-order, SM tq$\square$ events can be simulated with MadGraph5+Pythia8 through radiative production and radiative decay of the top quark. At next-to-leading-order (NLO), MadGraph5 is capable of producing tq$\square$ events only through radiative production as NLO generators cannot handle radiation from top decay products. However, this contribution can be estimated using NLO single top quark events (tq), where a photon is added to the event by PYTHIA8 during the showering of top quark decay products. However, Pythia8 can model radiative decay events through the tq process at NLO. In this report, I will compare the simulation of tq$\square$ process generated at LO and NLO. I will also present the comparison of the kinematics of photons that were generated during the radiative production and decay of the top quark.

BLAKE HOLMAN
The University of Texas at Austin
Popularity in Three-dimensional Stable Marriage

Popular matchings have been thoroughly studied in the context of the Stable Marriage Problem (SM), which consists of sets of men and women who each have preferences over the opposite set. A matching is popular if there is no other assignment of men and women with the property that more members prefer their partner in the assignment than in the matching. This project investigates the relationship between popular, strongly popular, and stable matchings in the 3-Gendered Stable Marriage Problem (3GSM), where there is an additional set of dogs and matchings are of man-woman-dog triples. We first show that, contrary to SM, popular matchings need not exist. Furthermore, we show that not all strongly popular matchings are stable, and not all stable matchings are popular, which is the case in SM. We also answer these questions for restrictions and variants of 3GSM. We aim to prove the hardness of finding popular and strongly popular matchings by constructing a reduction from the Three Dimensional Matching Problem (3DM), which is NP-complete. Lastly, in order to prove the hardness of testing a matching for popularity, we construct two graph-theoretic problems that are equivalent to identifying whether or not a matching is popular. Solving these problems will give information about whether or not deciding if a popular matching exists in an instance of 3GSM is NP-complete or strictly NP-hard.

DANIELA VILLALOBOS PAYAN
University of Colorado, Denver
New Ways of Teaching y=mx+b, Youth Education =Methods (Xplanation) + Behavior

In the state of Colorado, math requirements for high school students range from Algebra 1, Geometry, and Algebra 2. Mathematics courses and accompanying standardized tests can be difficult for some students. My research project seeks to explore and identify math barriers in postsecondary education. To this end, I conducted a literature review of math education articles After reading some articles, I found different Math Education barriers. Teacher communication, systemic tracking, standardized testing, and student comprehension where some themes that emerged. With system tracking, it mentions the improvement in academics when students are not tracked and not placed in lower level courses. Others talk about the importance of teacher collaboration and communication especially when it comes to figuring out and demonstrating new ways of teaching. Research shows positive student performance results from interventions such as giving students more practice time and reducing or eliminating homework. In the future, this project will examine additional barriers such as math-gendered stereotypes and inter-generational math anxiety. Ultimately, my research hopes to identify math education barriers in order to develop student-centered teaching approaches and systemic changes.

Abstract titles link to event detail pages.

July 31, 2020 - 10:30 AM PDT Breakout 12: Psychology and Cognitive Science Poster Session E

LAUREN BALDWIN
Southern Nazarene University
Is My Body a Cage?: Radical Dualism and Religious Orientation

Studies that have focused on Terror Management Theory (TMT) and religious orientation hone in on the characteristics and emotions tied to the fear of death, such as anxiety and depression, specifically as those emotions impact how one orients towards one's religious convictions. Prior research in TMT suggests that the human body can function as a reminder of mortality which in turn creates a motivation to dualistic understanding of self as body and soul. In the present study, it was hypothesized that religious orientation would be a contributor to one's belief in dualism, such that there would be a positive correlation between security-focused orientation and one's belief in dualism. On the other hand, it was hypothesized that a growth-focused religious orientation would be negatively correlated to dualism. Participants consisted of 222 adults, mostly university students, from two private christian colleges in the midwest. The participants completed a survey online, which included the Radical Dualism Scale, Defensive Theology Scale, and the Batson Quest Scale. Our study found that while there was a positive correlation between Radical Dualism and Defensively Oriented people, there was no correlation between Radical Dualism and Existentially Oriented people. It is important to go beyond measuring one's religiosity, or how religious they feel they are, and to begin studying how we function psychologically through religion. How does it make people see the world, death, and even their own bodies?

JOSE A. CASTANEDA JR.
Southern Nazarene University
Am I Protective or Am I Right?

Although there are multiple definitions of intellectual humility (IH), it can be agreed that IH is primarily focused on understanding the limits that one has on their own knowledge and beliefs (Hill et al., 2018). Due to the numerous ways that religious traditions are different in their views, the use of a single scale of IH will cause limitations due to the limitations of using a single religion's perspective. For the Christian tradition, the theistic IH scale focuses on the perspective of God, through subscales of submission to God, the recognition of human finite limitations, and the belief bias limitations. The present study furthers the knowledge and understanding of theistic IH by examining the relationship that it has with the religious orientations. Specifically, it was hypothesized that there would be a tradeoff seen between religious orientation and theistic intellectual humility such that security-orientated religious orientation would be positively related to submission to God and finite limitations and growth-focused orientation would be positively related to belief bias limitations. Participants were 222 adults, primarily students, from two private Christian universities located in the Midwest. Participants completed an online survey which included the Theistic Intellectual Humility Scale, Defensive Theology Scale, and the Batson Quest Scale. As hypothesized, intellectual submission to God and an understanding of human finite limitations were positively correlated with security-orientated religious orientation. In contrast, a recognition of belief bias limitation was positively correlated with growth-focused religious orientation. This study helps contribute to an unknown perspective of IH and religion.

CARLOS GUILLEN
University of Colorado, Denver
Internalized Inferiority: The Psychosocial Implications

The perception of being lower in status than others can lead to feelings of inferiority. Inferiority is a daunting emotion that arises from primarily negative social comparisons which are products of realistic or imaginary sources. This literature review seeks to explore possible measurable constructs that can portray a state of inferiority. Inferiority is an intense and fundamental feeling of inadequacy. The state of inferiority is connected to feelings of shame, guilt, and embarrassment. The literature review comprises of information that surveys both males and females in all demographics and their sensation of feeling inferior. This comprehensive literature review pursues to demonstrate that experienced inferiority is related to negative self-imagery, low self-esteem, social isolation and possible acts of discrimination towards others if the feelings of inferiority are considered as abnormal. Acts of discrimination can arise when the feelings of inferiority are brought forth to the conscious mind and paired with the particular social negative comparison, causes the individual to place fault with the subject of the negative comparison and thus demonstrating acts of discrimination towards that subject of the negative comparison. Though these emotions are perceived in the subconscious mind, it often causes individuals suffering from it to overcompensate. Thus, the drive to overcompensate is to extinguish the inferior perception. The findings of this literature review prospect to serve as a preliminary step for a future qualitative study utilizing virtual focus groups and in-depth interviews to capture and measure states of inferiority.

KAITLYN KNIGHT
Southern Nazarene University
The Impact of a Compassionate Love Writing Intervention on State Attachment to God

Attachment has been a topic that has been explored through research for many years by various researchers. From prior research we have been able to see a correspondence between a childs attachment to their caregivers and their relationship with God. The purpose of the current study is to determine whether or not reflecting on past experiences of giving or receiving compassionate love has made an impact on state attachment to God. In the present study there were three hypothesis that were tested. The first hypothesis was reflecting on an experience of giving and receiving compassionate love will result in less state attachment anxiety toward God, compared to reflecting on an everyday experience. The second hypothesis was reflecting on an experience of giving and receiving compassionate love will result in less state attachment avoidance toward God, compared to reflecting on an everyday experience. The last hypothesis was Reflecting on an experience of giving and receiving compassionate love will result in greater state attachment security toward God, compared to reflecting on an everyday experience. The participants were asked to answer a series of questions including the attachment to God scale and then were asked to take 5 minutes to reflect on an assigned prompt. There were 3 different prompts that included giving compassionate love, receiving compassionate love, and an everyday experience(control). My analyses will include three one-way ANOVA's testing how reflecting on giving/receiving compassionate love will impact state attachment to God.

SANDRA MONTENEGRO
University of Central Florida
Socio-Economic Background and Negotiation Outcomes

Inequality is prevalent not only due to disparities in material resources but also due to other cultural and psychological forces. The need for the present study is to advance the understanding of how social background affects salary negotiation decisions. Preliminary data from pilot studies were collected via self-report surveys. Preliminary results found indicators for a significant positive relationship between objective socio-economic background and salary negotiation outcomes. Next steps include further data collection to examine how the presentation of salary offers (i.e., minimum salary, maximum salary, salary range, average salary) affects the negotiation decisions of people from different socio-economic backgrounds.

July 31, 2020 - 10:30 AM PDT Breakout 12: Psychology and Cognitive Science Poster Session F

BRYAN MEDINA
University of Central Florida
Investigating artificial neural networks optimized for ecological auditory tasks as a normative model of pitch perception

Pitch perception is an important aspect of human hearing thought to underlie complex auditory tasks, such as separating concurrent sounds, recognizing voices, and following melodies. While pitch is traditionally considered the perceptual correlate of fundamental frequency, naturally-behaving listeners are rarely asked to explicitly report the pitch of a sound. Thus, in order to investigate how human pitch perception may have been shaped by the demands of ecologically-important tasks, we trained deep artificial neural networks to perform different combinations of three tasks that are ecologically important to humans (speech, voice, and environmental sound recognition) using simulated cochlear representations of speech excerpts superimposed on recorded auditory scenes. We then interrogated networks for learned representations of pitch by training linear classifiers on the networks' internal activations to perform psychophysical experiments, such as two-tone pitch discrimination. These classifiers enabled us to measure thresholds from networks trained to perform arbitrary tasks. We compared the effect of stimulus manipulations previously used in psychoacoustic experiments (e.g. inharmonic vs. harmonic tones, low vs. high-numbered harmonics, sine vs. random phase) between network and human listeners. These comparisons can shed light onto how pitch perception facilitates everyday auditory tasks. Comparisons between networks trained on different tasks also provide hypotheses for potentially distinct pitch mechanisms specialized for different aspects of audition.

KEONNA JORDAN
Winthrop University
Perceptions of Pain Experienced by African American and Caucasian Women

The physical pain of Black adults is routinely underestimated by doctors, medical students, and adults (Hoffman et al., 2016; Staton et al., 2007). We examined perceptions of physical and emotional pain experienced by Black and White women at different ages. Adults (n = 98) with a mean age of 21.83 (SD = 3.30) were randomly assigned to read three stories across the lifespan where the target character was either a White or Black female and experienced either physical or emotional pain. We assessed participants' empathy (Caruso & Mayer, 1998), sexism (Glick, 1996), and symbolic racism (Tarman & Sears, 2005). Participants believed that Black children and adolescents were tougher at dealing with physical pain than their White counterparts. Black participants and those with lower symbolic racism agreed more, suggesting that the image of the strong Black woman may have a positive origin. However our participants expressed concern about these perceptions in open-ended comments. White children were perceived as better at handling emotional than physical pain, and White adolescents as better at dealing with emotional pain and needing less protection from it than Black adolescents. Perhaps there is recognition that Black adolescents are forming their identity while dealing daily with the emotional stressors of racial inequality, making it harder to deal with additional emotional pain.

LAUREN PREVITALI
Stanislaus State University
Androgens and Gynephilia

The proposed study will explore how prenatal exposure to androgens are related to systemizing, empathizing, and gynephilia (sexual attraction to women). The second to fourth digit ratio of hands (2D:4D) will be used to assess prenatal androgen exposure. Systemizing is characterized by having skills or interests in activities such as map reading, mathematics and science and may be caused by androgenized brain structures. Empathizing is characterized by skills or interests in socializing, understanding emotions of oneself and others, and using such knowledge to predict behavior in others and may be due to a lack of androgenized brain structures. Systemizing and empathizing will be measured using established self-report measures. Participants will also view side-by-side pictures of people and objects, as well as men and women. We expect those higher in systemizing to attend more toward the pictures of objects than of people. Attention to the pictures of women over men will be used as an indirect measure of gynephilia. We expect to find lower 2D:4D, or a masculinized finger ratio, to be associated with both a Systemizing attentional preference and gynephilia. We also expect that higher 2D:4D, or a stereotypically feminine finger ratio, to be associated with an Empathetic attentional preference and a lack of gynephilia. A total of 900 participants who are 18 years and older in the US will be recruited via Amazon Mechanical Turk (MTurk) to complete the survey on Qualtrics.

SAMARIA STOVALL
University of Colorado, Denver
The Development of Children's Resilience: Relations Between Parent and Child Response Styles

According to the National Scientific Council on the Developing Child, resilience is defined as positive, adaptive responses in the face of significant adversity. While not all children face significant adversity, all children do face at least intermittent stressors and challenges to which they must respond. Learning positive, adaptive responses to such events is one necessary factor in the development of resilience, yet how are such response styles attained? One of the most important factors that influences children's emotional and behavioral responses—especially for young children—is the parenting to which they are exposed. While the centrality of the parent here is not surprising, the specific mechanisms by which a parent influences children's response styles is less clear. Social learning theory would say that parents shape their children's behavior through modeling. Yet, a review of the literature provides mixed results on the direct relation between parent and child response styles, at least when focused on direct dyadic interactions between parent and child. Perhaps the field has focused too narrowly on situations directly tied to parent-child dyadic interactions? Instead, our current work takes a more holistic view of the role of the parent. We argue that the influence of the parent is more cross-contextual—across the many settings from which the child is watching and learning, parenting and otherwise. We propose that adult response styles—avoidant and overreactive—are key in the development of child response styles—internalizing and externalizing. We expect that parents holistically impact the development of their children's resilience.

RABIA ZAHID
Boise State University
Stressors and Supports that Affect Refugee Fathers' Parenting and their Children's Development

Last year, the United States resettled 22,419 refugees across the country (Refugee Processing Center, 2019). Many of these refugees experience post-migration stress, which can impact their family relationships and overall wellbeing. Although there is current research involving refugees, the role of refugee fathers has been overlooked (Este & Tachble, 2009). Even though fathers typically play a secondary caretaker role in the family, they significantly influence their children's development. We are interested in studying how both the stressors and supports of Congolese fathers impact their parenting and how this influences their children's educational opportunities and social-emotional development. This is a qualitative and quantitative study using previously collected data and a new survey. Participation in this study allows refugee fathers an opportunity to voice their strengths and motivations as a father. Additionally, findings will provide new insight about existing and needed resources that are tailored to the needs of the fathers.

Abstract titles link to event detail pages.

July 31, 2020 - 11:45 AM PDT Breakout 13: Anthropology, Gender and Ethnic Studies Panel A

ALIYAH KLECKLEY
University of California, Davis
The Competing Views of Kikuyu Women in Colonial Kenya

The British take over in Africa caused major shifts for the cultures under colonial influence. Various African cultures struggled to keep customs while also having to adapt to life under the British. An example of this was the debate over women and their sexuality within Kenya's largest ethnic group, the Kikuyu. Kikuyu men and the British fought over what women's roles should be, while neglecting what women wanted for themselves. In this presentation, the clash between Kikuyu men and the British over Kikuyu women's gender roles and sexuality will be discussed. Kikuyu women's choices will also be examined, as they were made to navigate between the two ideals of womanhood. My goal is to understand women's meanings to the Kikuyu as well as the British and how these different meanings affected the debates over women being had at the time.

DIANA MEZA-GARCIA
University of Nevada, Reno
The Violence Against Women Act and its Implications on Immigrant Women in Northern Nevada

On February 18th, 2018, Congress allowed the Violence Against Women Act (VAWA) to lapse and, as a result, put thousands of organizations and programs that aid victims of abuse at risk. Though an extension for VAWA was approved in 2019, due to Senate bipartisan disagreements, its reauthorization currently appears unlikely. VAWA plays a key role in aiding immigrant women victims of domestic violence in the United States with issues such as legal residency status. Given the vulnerabilities that they are exposed to as non-citizens, immigrant women often experience higher rates of sexually abusive, exploitative, and violent situations than their citizen counterparts. Thus, VAWA's failure to reauthorize could result in the loss of a vital piece of legislation for especially vulnerable victims. Through an analysis and documentation of testimonies given by immigrant women in Northern Nevada, this project will seek to: 1) add to the limited existing literature exploring the impact that VAWA has had on this demographic (immigrant women), and 2) investigate how the act has impacted their immigration journey, domestic violence experience, and healing journey. Though still a work in progress, topics of investigation include: immigration experience, domestic violence experience, experiences with local resources and VAWA, as well as reflections on VAWA's impacts and limitations.

KATIE VALDEZ
Westminster College
Journeys of Violence: Indigenous Guatemalan Women Migrants and the U.S. Nation-State

This paper proposes a research project which centers Indigenous Guatemalan women migrants' experiences and voices as they are shaped by the violent and dangerous actions of the U.S. Nation-State towards the periphery in the Global South. Within a world system analysis, Indigenous Guatemalan women migrants face extremely high risks of violence and/or danger before, during, and after their migration journeys to one of the centers of the Global North. Through interviews conducted under the canons of Indigenous methodologies, community-based participatory research (CBPR), and participatory action research, Indigenous Guatemalan women who have migrated to the U.S. will tell their stories which so far have been marginalized and ignored by mainstream ethnographic research. The data collected through these interviews will be analyzed using a critical discourse analysis. An Indigenous decolonial feminist framework will then be applied to reveal how Indigenous Guatemalan migrant women will overcome the violent and dangerous circumstances created by the U.S. which jeopardize their survival.

July 31, 2020 - 11:45 AM PDT Breakout 13: Arts and Multimedia Panel B

SUSANA BARRON
University of California, Davis
Continued Associations of Race and Cleanliness in American Media

Since the end of the Civil War, media has constructed an image of hygiene that portrays non-white people as less than clean. This construction is at the heart of racist claims of white supremacy and the rhetoric that involves concepts of race pollution and white purity in order to maintain the power structures that were in place before the abolition of slavery. While who is considered white has changed over time, media continues to connect race and cleanliness. This association continues to leave people of color at a disadvantage, especially as it relates to the exposure to toxic chemicals. My presentation starts with an overview of media produced after the Civil War to the mid 20th century. Then, I'll go over the first signs of organized resistance against inequalities that have resulted from the racism surrounding hygiene and sanitation. From there, I'll give examples of the continued associations of race and cleanliness in American media from the mid 20th century to the 21st century. I'll conclude by looking at some of the positive changes that have taken place as well as other possible steps that can help reshape the social constructions that surround purity, cleanliness, and pollution.

BRENDA GARCIA
University of California, Los Angeles
Migration and Art as Activism: Narratives from Mexico and Border Art Installations

Over the past decade, the number of Central American refugees attempting to migrate to the United States has seen a dramatic increase over recent years. The increase in gang warfare and violence has forcibly displayed individuals from El Salvador, Guatemala, and Honduras. With a deeper understanding of U.S.- Mexico border policies in contemporary society, this project explores how artist highlights the mounting refugee crisis through the use of creativity to attract viewers, create a sense of unity within communities, and cultivation of curiosity. Primarily, this research explores the power of arts activism in promoting social issues while looking superficially at U.S. Mexico border art installations. Through a more in-depth analysis in attempts to understand the inclination of the transborder arts activism of artists Jr, the art collective Postcommodity, and Ronald Rael along with Virginia San Fratello. To further support the research regarding the current numbers of Central American refugees, I will look at the numbers offered by the United Nations High Commissioner for Refugees (UNHCR). My findings will serve as a year-long project where I seek to probe deeper into U.S.-Mexico border policies and the role that arts play in fostering conversation and activism through interactions occurring within borders.

ARACELY LARA
The University of Texas at Austin
Visual forms of Transformation and Resistance: A Close Reading on East Austin's Murals

This study will use murals as text in order to examine the relationship between murals and low socio-economic Mexican communities. Murals uncover the nuances of history with the city of Austin. In low-income communities under threat of gentrification, environmental disruptions, and cultural history loss, murals become representations of resistance and huellas or markers of transformation. This study will analyze murals such as "Liberacion" by Raul Valdez, "Our Lady of Guadalupe" by Juan Ruiz, and "Lotteria" by Johnny Martinez and its restoration by Arte Texas. These east Austin murals allow their communities to create relationships between themselves, locations, history, and narratives. This study wishes to define the role of murals as indicators or catalysts for change within their communities. By using Kay Turner's scholarship, "Voces de Fe: Mexican American Alaristas in Texas," this study will compare the use of Altares to murals. This comparison will allow the study to establish spirituality as a defining transformative quality of murals. In order to demonstrate this, the study will map murals in East Austin from 1997-present. The maps will provide a timeline and will allow for the visualization of change in the communities. Preceding the maps will be a thorough analysis of the murals, "Liberacion," "Our Lady of Guadalupe," and "Lotteria," with a biography of the artist and a brief history of their location. For the close reading of the murals, this study will use photographs from fieldwork done in east Austin in which I photographed murals and observed their function in their locations.

Abstract titles link to event detail pages.

July 31, 2020 - 11:45 AM PDT Breakout 13: Atmospheric and Environmental Science Panel C

SOLANA GRANADOS
University of New Mexico
Can Campus Transportation Planning Reduce Greenhouse Emissions?

Across the United States universities and colleges are increasingly adopting climate change mitigation measures for reducing greenhouse gas emissions. Campuses are adopting a wide range of measures from energy efficiency to transportation. Commuting accounts for a large share of campus greenhouse gas emissions and nationally transportation accounts for 29 percent of the total GHG emissions, making it the largest contributor. My project is an analysis of 19 climate plans with focus on transportation using a plan analysis and semi-structured interviews. Following (Berke & Godschalk, 2009) about assessing plan quality, it will examine the strengths of plans on several measures. In addition it will use plan analysis and semi-structured interviews with campus planners to answer these questions: What motivates universities and colleges to adopt climate action plans? What are the barriers to implementation of climate mitigation measures? What transportation strategies have been adopted to reduce GHG emissions? The universities and colleges were selected systematically from a list of signatories of the Second Nature's Carbon Commitment Charter. The selection was narrowed down to 19 out of 93 campuses, and each had adopted a climate action plan.

OLJA KOVACEVIC
University of Colorado, Denver
Germany's Transition to Hydrogen Energy in Heavy Industry

Heavy industry emissions from fossil fuel energy sources are a topic of debate internationally. Many countries and organizations as a result have begun to restructure their dependence on these energy forms and transition into forms of renewable energy. The heavy industries examined in this project include heavy transportation, metal production, cement production, chemical production, and machinery manufacturing. Countries and companies around the world are investing in hydrogen renewables as industrial fuel to shift toward carbon-free energy. Germany has assumed a leadership role in the energy transition to hydrogen. Their National Hydrogen Strategy, approved in June of 2020, sets out a model for a transition away from fossil fuels and toward hydrogen energy dubbing it "tomorrow's oil." Employing a literary analysis, this project examines hydrogen renewable energy implementations and investments in heavy industry sectors internationally, with a focus on Germany. Hydrogen as an energy source has the ability to shift dependence on fossil fuels and provide a cleaner, more accessible form of energy globally. Hydrogen also presents the opportunity to reduce stubborn emissions in heavy industry which contributes to a large portion of carbon emissions on a global scale. In its next iteration, this project will research countries whose economies rely on heavy industries and for whom a shift to hydrogen energy is feasible.

KAVITA MOHAMMED
John Jay College of Criminal Justice
Understanding the Causal Relationships Between Climate Change, Global Warming and Environmental Crimes: An International Criminal Justice Inquiry

Climate change and global warming persist as an imminent threat to human health and human ecology, and each year, these issues are becoming worse. In recent years, green criminologists continue to debate causal relationships between climate change, environmental crimes, and lucrative transnational criminal activity. The magnitude of environmental crimes calls for an extensive understanding of state law and international law, as well as investigating the global impacts of transnational environmental crime and climate change. Therefore, this proposed study aims to explore the causal relationships and global impact between transnational environmental crimes and climate change. It also seeks to assess the criminal liability of an individual who breaches the rule of international environmental law, which implicates jurisdiction for the International Criminal Court. This study will identify and examine a sample of 60 federal environmental court cases from various databases to answer the following research questions: Does transnational environmental crimes contribute to climate change and global warming, or vice versa? If so, what is the nature and extent of the damages to humanity? Would the impact add to the grounds of "Ecocide", as a fifth core crime in the Rome Statute? Answering these questions would identify the direct and indirect impact of environmental crimes, which would help governments and corporations (both individually and as a joint effort) create effective international responses towards environmental sustainability and justice.

Abstract titles link to event detail pages.

July 31, 2020 - 11:45 AM PDT Breakout 13: Biology Panel D

MIGUEL AVILA GARCIA
University of Nebraska–Lincoln
Investigating a Range Expansion Associated with Climate Change in Cope's Gray Treefrog (Hyla chrysoscelis) and its Potential Impact on Prey Selection

The consequences of climate change on amphibians are numerous and widespread, with range expansions and contractions being among them. This investigation explored a recent range expansion of Cope's gray treefrog (Hyla chrysoscelis) in eastern Nebraska. The distribution of H. chrysoscelis is speculated to have extended west from its original eastern range due to the lack of rainfall associated with climate change and fire suppression. Geographic data of H. chrysoscelis was collected from natural areas along the original eastern and expanded western edges of their range in the state. Stomach and fecal contents were analyzed to determine if there had been a significant change in their diet caused by this range expansion. The findings of this study will provide insight into the ecology of H. chrysoscelis and other ecologically similar species. Moreover, this study may shed light to understanding how climate change has and will impact anuran populations.

HALEY NATE
Westminster College
Characterization of Halophyte Rhizosphere Microbiomes at Great Salt Lake, Utah

The saline soils comprising the shoreline of Great Salt Lake, Utah (GSL) provide a unique habitat for both halophytes (salt-tolerant plants) and the microorganisms that inhabit their rhizosphere. While plant diversity has been well documented at GSL, little is known about the microbial diversity in the rhizosphere. Here we present preliminary data characterizing the halophyte rhizosphere microbiome at two GSL locations; the more saline North Arm near the artwork, Robert Smithson's Spiral Jetty (SJ), and the less saline South Arm on Antelope Island (AI). The rhizosphere of several plants along the shoreline at both SJ and AI locations was sampled. For each sample, plants were identified, soil salinity was quantified, DNA was isolated, and microbial cultures were established on either MGM or TSA medium. Numerous unique isolates were observed on both media, indicating the presence of both halophiles and non-halophiles in the rhizosphere. Subsequent 16s rDNA sequencing substantiated this, identifying a combined total 58 species of Archaea and more than 1100 Bacterial species among all collected samples. Our data suggest differences in the composition of rhizosphere microbiomes depending on location, soil type and salinity, and plant species. Decreased diversity of both Archaeal and Bacterial species was observed in rhizospheres at SJ compared to AI. Interestingly, a corresponding increase in the representation of halophilic Archaea at SJ was observed, possibly linked to the much higher salt concentration in the North Arm. Our results provide insight into the halophyte rhizosphere microbiome and expand our current knowledge of halophyte-halophile relationships.

Abstract titles link to event detail pages.

DIANA TAPIA
University of Wisconsin-Madison
Comparison of spring mark-recapture and summer hydroacoustic population estimates of yellow perch (Perca flavescens) in an oligotrophic north temperate lake

Proper assessment of yellow perch (Perca flavescens) population abundance is critical for the sustainability of this recreationally and economically important resource. To accomplish this, it is important to recognize that differing life history strategies and(or) habitat preferences among the same population of fish may cause one gear type to be more effective than another. The North Temperate Lakes Long-Term Ecological Research Network has seven sites in Northern Wisconsin where the only population estimate comes from hydroacoustic surveys of the pelagic area during summer stratification. There is potential that this survey design may be missing a proportion of the yellow perch population. This is likely true now that the area is experiencing record high water levels, providing more littoral habitat than in previous years. To test this, we conducted a spring mark-recapture survey with fyke nets and will compare that with population estimates derived from summer hydroacoustic surveys. We hypothesize that the mark-recapture survey will yield a larger population estimate due to yellow perch ecology dictating that all adult fish will be present in the littoral habitat to spawn during the spring while the hydroacoustic surveys will only sample fish with a pelagic orientated life history strategy. This study emphasizes the importance of evaluating gear bias and will have implications for future fisheries assessments, particularly when the target species may exhibit multiple life history strategies and(or) habitat preferences.

July 31, 2020 - 11:45 AM PDT Breakout 13: Clinical Medicine, Dentistry and Public Health Panel E

DONIA AHMED
University at Buffalo, SUNY
Quantitative Analysis of Diffusion-Weighted Brain MRI for Early Neuroprognostication After Cardiac Arrest: Validation in a Porcine Model

Hypoxic-ischemic brain injury is a primary cause of morbidity and mortality after cardiac arrest (CA). Therefore, accurate assessment of brain injury is critical for post-resuscitation prognostication and optimization of therapy. Quantitative analysis of apparent diffusion coefficient (ADC) maps derived via diffusion-weighted brain MRI (DWI) has recently been shown to predict long-term neurologic outcome in CA survivors when performed within 6-hours after return of spontaneous circulation (ROSC). However, this approach has not been validated in a preclinical animal model of CA in which post-mortem assessment of neuronal injury is available. Accordingly, the objective of this study is to (1) evaluate the accuracy of early DWI-derived assessment of brain injury in a porcine model of CA and (2) determine whether DWI can detect potential neuroprotective effects of allogeneic mesenchymal stem cells (MSCs) administered systemically early post-ROSC. Swine (n=19) that achieved ROSC post-CA were blindly randomized to intraventricular saline (n=9) or allogeneic bone marrow-derived MSCs (n=10). DWI-derived ADC maps were acquired 4-hours post-ROSC to assess regional brain injury. Compared with normal swine (n=6), saline-treated animals showed a significant reduction in mean ADC values in the parietal cortex, indicative of cytotoxic edema post-CA. However, the reduction in ADC was attenuated in animals treated with MSCs, consistent with MSC-mediated neuroprotection. Ongoing analysis will assess the extent of global brain injury by measuring the percentage of brain tissue below clinically-derived ADC thresholds in each animal. Subsequently, these non-invasive endpoints will be compared to post-mortem histopathologic parameters of neuronal injury to evaluate the accuracy of brain DWI.

ALEJANDRO GALLEGO
Florida International University
Physical Activity in Health-Related Quality of Life in Advanced Prostate Cancer

Androgen deprivation therapy (ADT) is commonly used for patients with advance prostate cancer (APC) in order to increase their chances of survival. APC patients treated with ADT report significant reduction in health-related quality of life (HRQOL). This study examines the association between physical activity (PA) and HRQOL in 180 APC patients who have undergone ADT within the last year. We hypothesize APC patients with higher levels of PA will report higher HRQOL. A one-way ANCOVA was used to measure the relationship between four levels of PA and HRQOL while controlling for related covariates (e.g. age, comorbidity). PA was found to be significantly associated with patient's HRQOL. Therefore, PA has the potential to be used as a behavioral intervention to buffer the effects of cancer treatment.

ROBERT HALL
University of Wisconsin-Madison
Optimization of a Novel Method for the Identification of Drugs to Prevent Metastasis

Cancer kills ~600,000 people in the U.S. each year. The role of activin receptors and disintigrins in cancer metastasis have been reported (Simon et al., 2009). Our previous studies using prostate cancer cell line PC3 showed that activin receptor signaling is critical for cell attachment. Suppression of activin signaling through ActRII antibody results in increased production of ADAM15 (a metalloproteinase) leading to the detachment of cells, a necessary step to metastasis. In this study, we suppressed the ActRII using siRNAs and measured the number of cells remained attached in each well in a 48-well format using crystal violet assay and Trypan blue. Our preliminary results show a significant reduction in the number of cells remained attached in wells treated with siRNA against ActRIIA or ActRIIB (50-100nM) for 48-72 hrs compared to control (NC1, IDT DNA). A combination treatment using siRNA against both ActRII A and B evoked the highest results. My work will focus on further optimizing the conditions for this assay. Based on these results, silencing siRNAs can be used to inhibit ActRII signaling in order to identify agents which can suppress the upregulation of ADAM15 and inhibit cell detachment. Such molecules may have anti-metastatic potential. Using this strategy, we are aiming to develop a high-throughput assay with multi-well plates to screen chemicals that prevent cell detachment induced by suppressing ActRII signaling.

Abstract titles link to event detail pages.

July 31, 2020 - 11:45 AM PDT Breakout 13: Psychology and Cognitive Science Panel F

ANAI PARKER
University of Wisconsin-Whitewater
The Impact of Adverse Childhood Experiences on the Psychopathology in African American males

Adverse childhood experiences (ACEs) in low-income urban neighborhoods have been studied in a variety of contexts throughout the years. From identifying infrequent ACEs, such as single-parent homes, exposure to violence, personal victimization, etc. (Wade Jr. et. al., 2014); to more profound ACEs, like maltreatment, neglect, and discrimination (CDC-Kraisser, 1998; Wade Jr. et. al., 2017). The current study aims to focus on how common and uncommon ACEs (e.g. poverty, violence, juvenile detainment/arrest, and death) impact psychopathology (depression, anxiety, and substance abuse) in African American males, emerging adults. Acknowledging the underrepresentation of research conducted on this particular topic concerning the population (Ward and Mengesha, 2013), this study will include a heterogenous mixture of African American males (ages 18-25), who meet or have met the standard poverty criteria. We will also examine perceived social support and feelings of hopelessness, as protective or contributing factors to these specific psychopathological outcomes. The methodology will include a mix-method approach, using a quantitative Qualtrics online survey that intersects and highlights specific aspects of the independent, dependent, and intermediate variables stated above, with follow up interviews. Similar to previous research, we expect to find these particular ACEs are associated with increased psychopathological symptomatology stated above. (Milan, Zona, Acker, & Turcios-Cotto,2013; Nikulina, Widom & Czaja, 2011) There is also an anticipation of a correlation between the amount of perceived social support and feelings of hopelessness impacting the number of psychopathological symptoms present. Future research will focus on behavioral risk factors, early adolescents (pre-K-12), and African American women exclusively. Further research recommended.

NOE RAMIREZ
Northeastern Illinois University
Long Term Effects of Exposure to Violence as Children

Thirty eight percent of children ages 17 and younger reported being a witness to violence in their lifetimes. Community violence, such as child abuse and gang activity, can lead to large levels of stress at a young age. This research examines how this environmental stress can lead to maladjustment in adulthood specifically on an adult's academic performance, their ability to hold a job, as well as the effects on their level of sociability and mental health. Literature has found that exposure to community violence leads to a decline in academic performance. Violence can also lead to issues with maintaining healthy interpersonal relationships. Researchers point that violence can lead to negative mental health outcomes such as anxiety and depression, which can then lead to a decline in overall health. Literature documents a cycle of violence where lack of education and resources leads to a lack of employment opportunities, leading to a decline in living conditions and perpetuating living in a violent area. This quantitative study will use a survey method to measure the level of exposure and kinds of violence an individual has experienced as a child. It will also measure the participants academic engagement, social skills, job history and the prevalence/seriousness of mental health issues. Data will be collected from college students at an urban Midwest university using the SONA online survey system, it will be analyzed and interpreted using the SPSS program. The results of this study may help researchers and practitioners to break the cycle of violence.

Abstract titles link to event detail pages.

MIA TROJOVSKY
University of Northern Colorado

Psychopathy and Harm Avoidance as Mediators in the Pathway Between Childhood Maltreatment and Adult Attachment Style

It is reasonable to expect the presentation of maladaptive attachment behavior in individuals who have a lifelong history of negative experiences. College students who self-reported a history of childhood maltreatment (CM) also reported increased rates of anxious attachment. In this sample, the relationship between CM and anxious attachment was partially mediated by psychopathic personality traits, which was most significant in relation to the blame externalization component of psychopathy. According to previous studies, harm avoidance (HA) has been observed as a developmental outcome of CM. Studies involving HA and attachment have found that those exhibiting more harm avoidance seek out relationships less frequently. The existing research examining harm avoidance in relation to both childhood maltreatment and attachment style is limited. In these previous studies, it was found that harm avoidance developed in individuals with a history of parental overprotection as well as those with a history of parental punishment (Stenbæk, Jensen, Holst, Mortensen, Knudsen, & Frokjaer, 2014). The present study utilized a second sample of individuals in order to investigate this relationship. In this sample, college students who reported higher rates of CM also reported higher levels of harm avoidance. Additionally, those who reported increased rates of anxious attachment also reported higher levels of harm avoidance. The anticipatory worry subscale of harm avoidance was found to fully mediate the pathway between a history of sexual abuse and anxious attachment. These results indicate that psychopathy and harm avoidance contribute to the outcome of anxious attachment at least some of the time.

Abstract titles link to event detail pages.

July 31, 2020 - 11:45 AM PDT Breakout 13: Psychology and Cognitive Science Panel G

BRIAN GYAMFI
The University of Texas at Austin
Mood Symptoms and Creativity Displayed in Students from South Korea, North America, and India

Throughout history, mood disorders have been associated with artistic creativity. The term "mad genius" stems from the belief that a relationship between creativity and mood disorders exists. There are many examples of striking associations between creativity and mood disorders, and particularly bipolar disorder. There have been many creatively acknowledged people who have suffered from mood disorders: Vincent Van Gogh, Sylvia Plath, Martin Luther, Ernest Hemingway, and Winston Churchill, to mention a few. Researchers have conducted studies regarding the association between mood disorders and creativity, but rarely has the research been applied outside the United States. A great deal of the research reported to date has also been relatively narrow as it has focused mostly on writers. Cultural relevancy regarding creativity and mood disorders has also failed to be taken into account. We hypothesized that, depending on to the Country the participant resides the correlation between mood disorder and artistic creativity will differ. In this study, I am working with Dr. Youngstrom and Dr. Repp to use data gathered by Dr. Youngstrom and Dr. Rizvi from South Korea, North America, and India to conduct a secondary analysis using R Studio of the specific variables.

ARIANA DEJESUS-RODRIGUEZ
University at Buffalo, SUNY
Hyperactivity/impulsivity, inattention, and forms of early childhood peer victimization: Moderation by peer rejection

The defining symptoms of ADHD, hyperactivity/impulsivity and inattention, are associated with various problems across social domains, including peer rejection and victimization (McQuade & Hoza, 2015). Past work has found differential associations between these symptom domains and physical and relational forms of aggression (Zalecki & Hinshaw, 2004), but has failed to find expected differential effects with victimization (Kamper-DeMarco & Ostrov, 2017). The present study extends this prior work by examining whether peer rejection serves as a peer-group level moderator of these associations. Specifically, we hypothesized hyperactivity/impulsivity symptoms would predict increases in physical victimization and inattention symptoms would predict increases in relational victimization, for children who are also rejected by peers. Participants are a developmentally normative early childhood sample (N = 300, Mage = 44.70 months), with data collected over the course of one calendar year. Separate hierarchical regression analyses were run predicting relational and physical victimization, controlling for gender, age, the alternate form of peer victimization, and initial levels of the outcome variable. Consistent with hypotheses, hyperactivity/impulsivity was significantly associated with increases in physical (B = 0.33, p = .03), but not relational (B = 0.29, p = .14), victimization. However, no significant associations emerged for inattention symptoms, and peer rejection did not moderate any of these associations. This work suggests hyperactivity may be especially relevant to experiences of physical victimization in early childhood. Future work should continue to elucidate the role of inattention symptoms in peer victimization experiences and consider whether other moderators exist for these associations (e.g., ODD).

RIEANNA MCPHIE
John Jay College of Criminal Justice

Being Multiracial in America: Self-Esteem and Microaggression among Multiracial Individuals - A Secondary Data Analysis

The multiracial population, regardless of their consistent population growth, higher use of counseling services, and unique experiences due to their background, has been significantly underserved in scientific research. Therefore, this study will explore the unexamined relationship between self-esteem and racial microaggression among multiracial individuals. Multiracial is defined as possessing two or more races and racial microaggressions are characterized as subtle, indirect, and often unintentional prejudice or discrimination. Some forms of microaggression specific to multiracials are exclusion (e.g. being told you're not really Black by a Black aunt) and exoticization (e.g. a Spanish man saying I want to marry a Korean girl so I can have babies like you). Moreover, microaggressions have shown to negatively affect the individual's self and group identity and mental health. Thus, the researcher hypothesizes that 1) lower levels of self-esteem is related to higher experiences of microaggression and 2) the negative correlation will be greatest among multiracial folks, followed by monoracial minority, then monoracial Whites. The study will utilize a secondary data analysis of descriptive survey data with 669 diverse participants. The study will exert data from the Personal Data Sheet for race, ethnicity, and other potential control variables, Collective Self-Esteem Scale for self-esteem, Symptom Checklist-90 Revised for mental health status, and the Racial and Ethnic Microaggression Scale for microaggression. By conducting this study, the researcher hopes to increase knowledge and competency of the multiracial population among researchers and counselors, and provoke additional research within this population.

Abstract titles link to event detail pages.

July 31, 2020 - 11:45 AM PDT Breakout 13: Sociology and Public Affairs Panel H

ANGELINA BENLI
John Jay College of Criminal Justice
One Man, No Vote: The Legacy of Felon Disenfranchisement

Over the past half-century, the population of those incarcerated in the United States has increased to 2.2 million. State laws that govern whether individuals with felony convictions can vote are not uniform, which leads to unequal participation and unfair disparity in elections based on where an individual resides. Due to felon disenfranchising policies across the country, an estimated 6.1 million Americans are unable to cast ballots, which is 3% of the voting population. This project will have two phases, the first is to use national surveys that include ex-felons, along with national and county-level election returns to examine the political behavior and participation of ex-felons. This will help answer if re-enfranchisement leads to increased turnout, in elections and other political activities. These empirical results will be the backdrop for the second phase, which will be a case study of New York City, focusing on voter turnout after Governor Cuomo's 2018 executive order reinstating the right to vote to those on parole and probation. The greater understanding that we have of the political participation of ex-felons or lack thereof can inform future election and voter policy on a county, state, and federal level.

JAVON JOHNSON
Texas Tech University
The Perceived Effects of a 287(g) Agreement in Texas Counties

The conducted study of the perceived effects of a 287(g) agreement in Texas counties is a quantitative study that explores various public officials' thoughts about the effects of 287(g) agreements in their respective counties to gain a better understanding of the benefits and drawbacks to the 287(g) agreement. A 287(g) agreement is a federal agreement overseen by the United States Immigration and Customs Enforcement agency that allows the federal government to enter into Memoranda of Agreements with state and local law enforcement. The program is aimed to expand immigration operations by allowing state and local law enforcement to participate in specified trainings and act as immigration officials to a limited degree. The law enforcement officials are allowed to assist in areas such as the identification, arrests, and the serving of warrants to removable aliens. Texas public officials' in different counites were interviewed over the phone to explore the perceived effects that the 287(g) agreements have or have not had within their counties.

ARLEN RODRIGUEZ VARELA
The University of Texas at Austin
Considering the Immigrant Civic Potential: Latinx Immigrant-origin Youths' Civic Identity Development Prior to the 2020 Election

Civic engagement reflects a community's health, harmony, satisfaction, and commitment. Although prior research centers civic behavior on aspects such as social studies, the present study concerns the combination of civic involvement and internalization of polarized political discourse. In other words, as negative attitudes toward immigrants intensified during the 2016 presidential election, the impact to Latinx immigrant-origin youth's civic engagement is unclear. Negative political discourse may incite engagement through defiance or indignation, or conversely, inactivity because of perceived rejection. Therefore, political discourse appears to impact individuals regardless of the extent of their engagement, and although some become increasingly active, their sense of belonging will likely remain negative, possibly affecting other aspects of their lives. Through a qualitative approach, interviews of Latinx immigrant-origin youth will provide insight about the roles and influences behind their civic identities, particularly as they relate to the 2020 election. The results appear to lean toward increasing engagement, with some young adults striving to defend their heritage and prioritizing national-level voting. Findings are expected to communicate immigrants' challenges and process of civic identity development as they navigate and participate within their negative surroundings, which will prompt for ways to serve, comfort, and encourage their involvement. Further research may examine processes of assimilation and acculturation in depth and their relation to civic engagement, barriers to integration, ways to increase engagement, well-being, and best accommodations to aid in their adjustment, all of which could influence their desire to become involved.

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July 31, 2020 - 1:45 PM PDT Breakout 14: Chemistry and Biochemistry Panel A

NATALIE CORREA
University of New Mexico
The Human Niemann-Pick C1 Gene Interacts with Modifying Genes to Promote Obesity and Diabetes

An early genome-wide association study (GWAS) and following replication studies reported that the human Niemann-Pick C1 (NPC1) gene is associated with adult obesity or diabetes based on ethnicity. At the time, it was also reported that NPC1 heterozygous mice (NPC1+/-) with decreased gene dosage were susceptible to weight gain or impaired glucose tolerance from different genetic backgrounds (BALB/c or C57BL6, respectively). The physiological basis for weight gain using BALB/c NPC1+/+ and NPC1+/- mice fed a high-fat diet was determined by biochemical and metabolic phenotype analyses. White adipose tissue derived from NPC1+/- mice had significantly decreased amounts of phosphorylated (activated) hormone sensitive lipase (HSL) and decreased lipolysis compared to NPC1+/+ mice. Consistent with in vivo studies, cellular energy metabolism studies indicated NPC1+/- mouse fibroblasts had significantly increased basal glycolysis yet significantly decreased basal oxidative metabolism compared to NPC1+/+ mouse fibroblasts, suggesting overall increased lipogenesis and decreased lipolysis. To verify these results and further characterize this metabolic pathway a genotype-phenotype translational pilot study was performed with 303 individuals (160 non-Hispanic Whites and 143 Hispanics) whereby single-nucleotide polymorphisms (SNPs) and modifying gene SNPs were determined and statistically tested to determine association with metabolic disease phenotypes (obesity and diabetes). The results demonstrated that several human NPC1 gene SNPs interacted with modifying genes in both non-Hispanic Whites and Hispanics to promote obesity and diabetes, respectively. In summary, based on published studies and preliminary analysis of clinical data, the NPC1 gene interacts with modifying genes to influence elements of whole-body energy metabolism.

MARIE MARSEILE
Florida International University
Determination of Heavy Metals in Natural Cosmetics/Personal Care by Inductively Coupled Plasma Mass Spectrometer (ICP-MS)

The cosmetic industry regularly develops original and innovative formulations to enhance past and future products. Over the past years, natural cosmetics have been favored among consumers because it is believed to be a safer option. However, what countless individuals do not recognize is that the term natural does not imply safe, as heavy metals are natural elements. Companies that market their products as natural to receive consumers' engagement is known as greenwashing. Numerous cosmetic products contain heavy metals, whether they are intentional or accidental because of byproducts or contaminations. Although at low concentrations metals may appear harmless, with reoccurring exposure from cosmetic/personal care products in the oral cavity, hair, skin, and nails, the body will absorb these metals, causing great harm. A range of natural (greenwashing) cosmetic/personal care products, conventional cosmetic/personal care products and NSF organic certified cosmetic/personal care products from various cosmetic companies will be analyzed utilizing Inductively Coupled Plasma Mass Spectrometer (ICP-MS) to detect the presence of heavy metals such as mercury, arsenic, and lead.

Abstract titles link to event detail pages.

AIAH NOUR

University of Nebraska–Lincoln

Determining the role of Protein o-fucosyltransferase-1 (POFUT-1) Modifications of the Stabilin-2 receptor Expression and Function in Human Cells

Protein O-fucosyltransferase-1 (POFUT-1) is a fucosyltransferase that hypothetically modifies over 100 human proteins. Many proteins containing EGF domains undergo post-translational modifications by fucose sugars. The importance of O-fucosylation is evident in its involvement in NOTCH receptor signaling. NOTCH is the only studied and proved substrate to be modified by POFUT-1 with its many matching EGF domains. In this study, we proposed a mechanism for O-fucosylation of the Stabilin-2 receptor because of identical consensus sequences on 6 of the 20 EGF domains required for POFUT-1 recognition and modification. To demonstrate this, HEK293 cells were grown in two cell lines, a control unmodified line and a line that has undergone CRISPR/CAS9 to inactivate the POFUT-1 gene, and then transfected with stab-2 cDNA. We verified expression of transfected cells by SDS-PAGE followed by western blot. Preliminary conclusions found that O-fucosylation does not affect receptor expression or endocytosis function. However, further protein purification tests were conducted at the CCRC to examine ectodomain O-fucosylation of the 6 EGF domains on Stabilin-2.

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July 31, 2020 - 1:45 PM PDT Breakout 14: Education Panel B

DELIA CARSTEN
Westminster College
Trauma Informed Practices: Examining Laws and Regulation Manuals

The study of trauma and the negative effects it has on brain development is relatively new. It is   seen in students across the United States. Almost half of U.S. adolescents have at least one adverse childhood experience as the result of a trauma. Practices to promote the well being of students are being introduced to help address the traumatic effects these students are facing. This project explores the evidence of trauma-informed practices in the Department of Education Laws and Restriction manuals. Laws and Regulation manuals from California, Utah, Texas and New Hampshire have been examined to highlight the current evidence of how frequent and how present trauma informed practices are implemented in schools. The Laws and Regulation manuals will differ with the amount of trauma informed practices due to it being a newer framework and limited training is granted . There will also be more reference to the practices in California and Texas compared to Utah and New Hampshire due to a wider range of diversity among the populations. Inability to observe and document when and how these practices are being used as the manuals suggest, limit the actual usage of trauma informed practices in the K-12 setting. As this research continues, I plan to interview and observe different classroom environments and assist with documentation of usage and track results.

LILLIAN DAVIS
Westminster College
Disciplinary Power: A qualitative inquiry into a tension of higher education in prison

This qualitative study explores how prison disciplinary power influences the engagement of in-prison higher education and how policies can be drafted to protect incarcerated students' rights and access to education. The field of higher education in prison is rapidly growing. At many institutions, incarcerated student enrollment is functionally identical to the remainder of the student body. Many incarcerated students pay tuition, take for-credit courses, and receive a transcript and a credential. While non-incarcerated students who are enrolled at a college are afforded a certain set of rights, these rights may be compromised during incarceration. This becomes problematic when the student is enrolled in for-credit post-secondary education and is forced to withdraw or fail all courses as a result of prison-initiated disciplinary decisions made, often without consultation of the prison education program. These decisions can have long-term academic consequences for students. In these situations, the college has some responsibility to the student, but it is unclear to what extent the prison's disciplinary power and security concerns impact the student's rights or the college's autonomy and efficacy. Through interviews with prison education program stakeholders, including prison staff, college staff, program staff, and alumni, this study examines if and how instances of disciplinary power disrupt, influence, and impact student rights, when and how student rights are incorporated into memorandum of understandings or contracts between prisons and colleges, and how prison education program stakeholders think about and respond to discipline within confinement.

BRIAN ZAMORA
University of California, Los Angeles
Rooted thru the Seeds: Nemachtili in Critical Indigenous and Freirean Methodologies

The salience of racialization across education research in tandem with other subjectivities such as gender and class often unintentionally minimizes the role of capitalist social relations that so profusely impact racialized groups' social and material conditions (Brayboy, 2005; Smith-Maddox and Solórzano, 2002). Evidently, there is a need for a line of research that captures the ways class reproduces the urbanized and racialized geographies of Chicanx people and questions how their existing learning systems either alienate or further the localization of knowledge funds and desires. While Chicanx education research has mainly focused on identifying strategies to better fit a mold within traditional school settings, there is less attention placed on conventional knowledge systems that are conducive to communities outside of the academic periphery (Calderon, 2014). Luis Rodriguez interprets this understanding as nemachtili, or "the Nahuatl word for the spirit of learning" (Rodriguez, 2020, p. 37). To this end, I introduce nemachtili as a working methodology that sustains a critical Indigenous approach nested in a Freirean tradition to analyze subjectivities most immediate to Chicanos (Freire, 2000). This raises the questions: How does nemachtili encompass a Freirean and critical Indigenous methodology to address learning spaces? How is nemachtili manifested in an urban informal learning space? This study illustrates these methodologies and builds on them through a critical case study of an online course for Chicanx/Indigenous urban youth. The study situates Freirean theory and critical Indigenous theory as fundamental to a research approach that is conscious of the urbanized and racialized settings that Chicanos inhabit.

Abstract titles link to event detail pages.

July 31, 2020 - 1:45 PM PDT Breakout 14: Engineering Panel C

MARCO COLIN
University of California, Santa Barbara
Understanding the mechanical behaviors of functionally graded lattice structures through a parametric study

Lattice materials are composed of arrays of interconnected struts and are used for their weight-efficient mechanical properties. Their prevalence has increased due to advances in additive manufacturing (AM) technology used in applications such as crash protection systems. With the design complexity afforded by AM, functionally graded materials, which are materials that have spatially varying mechanical properties, can be fabricated with a high degree of control. These materials have previously demonstrated the potential for high energy absorption applications. Finite element analysis (FEA) serves as numerical validation and enables large-scale simulations for preliminary results. The present research focuses on an FEA parametric study of functionally graded lattice designs to begin understanding the mechanical responses caused by geometric and size modifications. The graded lattice designs will be two-dimensional triangulated structures and will be compressed in the direction of the density gradient. Hyperbeam is the FEA program of choice for this study which provides robust and easily tunable design parameters for large simulations. This research focuses primarily on the pre-densification stress-strain region, as this region is structurally dependent. The scaling relationships that have been obtained from this analysis between mechanical properties and design parameters should help to establish a preliminary reference guide for attaining different mechanical responses. For further proof of the simulation findings, physical compression measurements of lattice structures will also be used.

KARINA PUENTE
Texas Tech University
Optimizing a Hexapod Robot using Heuristic Genetic Algorithms

Rescuing people from the aftermath of natural disasters such as earthquakes, hurricanes, etc. is extremely difficult, more so if they are underneath tons of rubble. Recent advancements in search and rescue robots have made it possible to locate and rescue these people. Since robotics is a fairly new field, there is only so much a robot is capable of doing. By implementing heuristic genetic (HG) algorithms to code, the robot will be able to choose the fastest path to finish the task. This means the climbing and walking capabilities of a robot will be optimized enough to enter rigid terrain. This is imperative because the difference between one minute or two can mean life or death. This project will focus on optimizing the walking and climbing speed of a robot with HG algorithms. The intention of the robot is to be used as a search and rescue device in the future.

AHTZIRY VASQUEZ
University of Nevada, Reno
Enhanced Single-Phase Heat Transfer in Intermittently and Increasing-Grooved Passages

The scarcity of fresh water along with the high use of geothermal systems in Nevada cause an imbalance between supply and demand for fresh water as a cooling agent. Air, in a dry cooling system, has been shown to have the potential of being used as a cooling agent if the geometry of the plates through which it flows is altered with grooves. The addition of grooves in the channel has shown to induce vortex formation, which helps increase the heat transfer capabilities of air. Drag, however, also increases in the channels with grooves, increasing the pumping power requirement. Additionally, previous studies suggest that the boundary layer formation within the channel hinders the ability of air to create vortices at the beginning of the passage. The channel has a potential to further increase heat transfer if vortices can be instigated at the beginning. The objective of this research is to propose new plate geometries that will enhance heat transfer without significantly increasing drag. This will lead to a higher efficiency of dry cooling systems applicable to Nevada and decrease the need for fresh water to operate cooling systems. Two-dimensional (2D) computational fluid dynamic (CFD) simulations using Nek5000 code are currently being conducted for intermittently and increasing grooved plates to evaluate their efficiency compared to flat plates. A variation of flow rates and temperatures are being tested. The most efficient geometries are then going to be tested in three-dimensional (3D) simulations in an effort to validate the results of 2D simulations.

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July 31, 2020 - 1:45 PM PDT Breakout 14: Humanities Panel D

KAMI CHESNUT
Westminster College
Creating Change

The philosophical theory of moral progress states that people's thoughts and ideas can be changed for the better over the course of time and their subsequent behavior will reflect this. Societal moral progress suggests that if enough individuals can morally improve, society as a whole can advance into a better moral position with each generation. Scientific research suggests that people comprehend information and are more emotionally affected by art and images than words or text. This led me to examine the history of activism through art and the role it has played in either promoting or discouraging moral progress. Guided by this history, I explored different artistic activists and social movements to show the effects that artistic activism, political imaging, and media platforms can have on people's willingness to engage in positive social change.

BAILEY NANDORY
University of Wisconsin-Madison
Defining To Kalon: An Exploration of the Fine

This presentation focuses on Plato's Hippias Major, a dialogue where Socrates and Hippias try to create a definition for to kalon, a word often translated most often as "good", "fine", "noble", or "beautiful". The dialogue ends in an impasse when Socrates and Hippias cannot agree on a working definition or even a set of criteria for to kalon, leaving Socrates unsatisfied. Throughout the dialogue, they bounce back and forth between to kalon pertaining to something aesthetically beautiful or something morally good. My research explores and evaluates the ontology used by Socrates and Hippias throughout this dialogue, primarily focusing on the intersection between beauty and virtue. For the purpose of this presentation, in order to consolidate all possible translations into one all-encompassing term and to avoid confusion, I am translating to kalon as "fine". Additionally, the Greek text is quite unusual; Plato uses certain words in unique configurations or contexts, and there is some scholarly debate as to whether the text is a dense philosophical work or a light satirical comedy. For the purpose of this presentation, I will be treating the text as if it is a serious piece of philosophy.

WREN PALMER
University of California, Santa Barbara
The Oceanic Consciousness: From Tourist Attractions to Trending on TikTok

The cultural dimensions of identity amongst Pacific Islanders are articulated differently depending on the ways individuals and groups balance culture and religion. The emergence of an individual's Oceanic consciousness, the connectedness between Pacific peoples as a sea of islands, from institutions of preservation, shifts into sharing spaces and stories about relationships across arts, academia, and sites of activism. Regardless of how one's consciousness takes form, the way in in which one channels one's sense of Oceanic consciousness does not invalidate one's experiences as authentically Pacific. How do cultural preservation and cultural evolution shape Pacific identities? Looking at sites of cultural preservation, like the Polynesian Culture Center, Kū Kia'i Mauna (We Are Mauna Kea, the movement to defend the sacred mountain from desecration by a supertelescope), and on social media, illuminates the core of Pacific identity, showing how they are influenced, shared with, and received by others. Then, this translation of culture into new media highlights a spectrum of authenticity outlined by generational differences and consequences of tourism. These forms of Oceanic consciousness each claim to be deep, essential, and true to the cores of the Pacific, yet they are very different. On occasion, they may try to discredit each other. From gathering oral histories and texts, and dissecting performances, this project provides multiple perspectives on preservation and cultural evolution in the Pacific. It investigates the limits on culture or means of transcendence, and how Oceanic expressions are made manifest.

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July 31, 2020 - 1:45 PM PDT Breakout 14: Math, Stats and Physics Panel E

CHRISTOPHER HOPP
University of California, Davis
Liquid Argon Purity Monitor Theory and Design

High purity liquid argon is utilized in time projection chambers (TPCs), for both neutrino and weakly-interacting massive particle (WIMP) dark matter detection experiments. These detectors search for interactions between incident particles and the argon nuclei. The resulting collisions would be characterized by a signature of emitted photons and freed electrons. Maintaining high liquid argon purity levels is critical to the function of the detector as electronegative impurities can capture the freed electrons in the drift region. Following is a design for a purity monitor to be implemented in a test stand for the DarkSide-20k dark matter experiment. The monitor utilizes a gold photocathode and UV xenon lamp to liberate electrons via the photoelectric effect. These electrons then drift towards the anode in a uniform electric field. As the electrons move through the drift region, a portion are captured by impurities. The fraction of the electrons freed from the photocathode and received at the anode is measured with a charge sensitive preamplifier and serves as a relative measurement of the argon purity. We aim to achieve electron lifetimes on the order of microseconds.

JACOB MOLINA
University of Nevada, Reno
Electron-Ion Equilibration in Warm Dense Gold

With the advent of ultrafast MeV electron diffraction, experiments have now been able to observe the structural evolution of laser excited systems of gold on a nanometer scale. After excitation, and on a picosecond timescale, these systems rapidly form a complex non-equilibrium state of matter that cannot be fitted by a simple linear equilibration model. One hotly debated topic is the existence of bond hardening, i.e., the strengthening of the material after laser excitation. In fact, over the past ten years, three separate research groups have observed the structural dynamics of commensurate systems of warm dense gold and come to opposing conclusions. To make sense of these recalcitrant literary conclusions we have performed thousands of molecular dynamics simulations that make use of a highly optimized interatomic potential derived from quantum mechanics. We are then able to forgo making assumptions regarding the various physical parameters that plague the analysis of published experimental results and has led to the current disagreement. We are able to exactly match the published time-resolved electron diffraction data, refute previous analysis, and question the invoked assumptions. From our results we validate various theoretical models for the electron-ion equilibration rate in warm dense gold. Each of our simulations contained approximately 1,685,600 atoms and was run on upwards of 3,400 cores via the Pronghorn High-Performance Computing Cluster.

ADAM YANEZ
University of New Mexico
Effects of Gamma Radiation on Breakdown and Depletion Voltages in 3D Silicon Sensors for Particle Physics Experiments

Particle physics experiments at facilities like the CERN Large Hadron Collider explore the fundamental constituents and forces of nature. These facilities require operation of detectors in radiation zones. A new technology is proposed for tracking elementary particles in experiments at CERN that may improve their resistance to radiation. This technology uses silicon sensors whose electrodes are oriented perpendicular to the wafer surface; these are known as 3D sensors. A geometry with aggressively small distances between electrodes is proposed as a possible method for achieving charge multiplication in the devices. Such charge multiplication could compensate for radiation-induced signal loss, thereby enhancing the radiation tolerance of the devices. One indicator of their radiation tolerance is their breakdown voltage. Pre-exposure of the sensors to gamma radiation can influence their internal electric field, possibly modifying their breakdown voltage. Measurements of the breakdown voltage of a sample of 3D sensors before and after their exposure to gamma radiation are presented. The breakdown voltages of the sensors are not found to improve after irradiation so as to allow charge multiplication to occur. Future work will include irradiation of different sensor geometries using different types of radiation along with charge collection measurements.

Abstract titles link to event detail pages.

July 31, 2020 - 1:45 PM PDT Breakout 14: Psychology and Cognitive Science Panel F

MICHAEL HENDRIX
University of Wisconsin-Whitewater
Can Comprehending Sentences About Wrestling Improve Collegiate Wrestlers' Performance?

Theories of embodiment suggest that language comprehension involves a simulation that engages the same neural systems used in real-world interactions. Thus, we predicted that a language-driven simulation of specific sports actions should engage the same neural systems required for developing specific motor sports skills. Collegiate team wrestlers (n=30) were quasi-randomly assigned to one of two groups (each formed to have a consistent expert/novice ratio) and were given a language comprehension task. The task involved 8 booklets each containing 24 sentences that described specific actions. The experimental group read sentences describing actions about wrestling while the control group read sentences describing exercise conditioning actions. For each wrestler, percentage of correctly answered comprehension questions was calculated and wrestling performance across the duration of the season was taken as the number of team points won per match. ANOVA test analysis showed that the mean number of team points won per match for experimental and control groups did not differ significantly among experts and novices. However, for the experimental group only, there was a significant correlation between team points won per match and performance on the language comprehension task such that the higher a wrestler scored on the comprehension task, the more points they earned per match. Although the present results can't attribute a causal role to language driven-simulation in wrestling performance, the significant correlation suggests a relationship that should be investigated in future research. As such, a replication of the study is now in process.

HECTOR SOSA
University at Buffalo, SUNY
Role models for underrepresented groups

Role models are exceptional individuals who motivate and inspire others. Role models can be especially effective for members of underrepresented groups such as racial minorities and women who cope with negative stereotypes associated with their in-group (known as stereotype threat). When members of an underrepresented group(s) are in a setting where there is a lack of representation of people who are similar to them, they can be primed to think about their underrepresented identity. This focus on underrepresentation can lead to stereotype threat or a fear of confirming the negative stereotypes associated with their in-group. It is difficult for underrepresented groups to succeed because of stereotype threat, discrimination, and/or overall lack of resources. However, role models serve as a resource to help members of underrepresented groups to overcome their struggles and succeed. This presentation will focus on what is the best way to present a role model in order to best assist members of an underrepresented group? This presentation will review the previous literature in the field of psychology in order to better define the term role model and what specific aspects of a role model have researchers focus on/manipulate in previous studies.

JAQUELYN VALENZUELA
University of California, Santa Barbara
Exploring the Role of Coaches through the Perceptions of Latina Wrestlers

This study investigates fifty-one girls (mean age 15.9) in high school and their experiences and treatment participating in the male-dominated sport of wrestling. Girls were interviewed about their perceptions of the life lessons they learned from coaches. Findings indicate that the three most prevalent themes were that the lessons the girls were able to apply the lessons the girls learned from coaches to real life, they were able to learn more effective communication skills, and they learned self-acceptance. Implications from this study can provide coaches with a better understanding of how to approach the increasing number of girls participating in male-dominated sports and offers insight into experiences in high school wrestling under Title IX.

July 31, 2020 - 1:45 PM PDT Breakout 14: Sociology and Public Affairs Panel G

LUCY ARIAS
Wayne State University
The Resilient Sector: How Nonprofit Organizations Use Innovation and Social Entrepreneurship During the COVID-19 Pandemic.

COVID-19 is among the most impactful events in our recent history. It is critically affecting many facets of the economy, while impacting the non-profit sector the hardest. Globally, it was found that 94.38% of social and human service organizations have been negatively impacted by this pandemic (COVID-19 Reports, 2020). Therefore, it is imperative to look at what non-profits are doing in order to mitigate the effects of COVID-19. This study examines how the non-profit sector organizations use social entrepreneurship and innovation to mitigate the effects of COVID-19. Social innovation is defined as a novel solution to a social problem, and social entrepreneurship is defined as using business-like approaches and self-reliant financial strategies to tackle a social issue. This paper examines the role of social entrepreneurship and innovation in non-profit organizational responses to COVID-19 with a focus on social and human service non-profit organizations. Data analysis documents six examples of different approaches in which non-profits rely on social entrepreneurship to mitigate the effects of COVID-19 on vulnerable populations. This paper focuses on examples from the U.S as well as several examples from international contexts. A preview of the findings include, adaptation to doing fund-raising virtually for the organizations, as well as adaptation in terms of how volunteer work has been completed. Also, another key finding is adaptation to how services have been offered to society's most vulnerable groups in a non-conventional manner due to social distancing restrictions.

TIERA MOORE
Kent State University
Nationalism in Spain: Regional Power and the Response to COVID-19

Spain, often referred to as a nation of nations, holds seventeen autonomous regions within its borders. These regions were given some political and legal power after the death of dictator Francisco Franco in 1975. However, despite having gained autonomy within the Spanish state, the historical nationalities of Galicia, Basque Country, and Catalonia still push for additional independence today. The purpose of this research is to explore how regional identity impacts Spanish politics and the legal statutes that differentiate each autonomous region. Looking at how Spanish citizens choose to identify is important because it greatly impacts the actions of the central government, which can be seen in the response to the novel coronavirus (COVID-19). By reviewing literature in the field and conducting an in-depth analysis of COVID-19 policies within each region of Spain, I will investigate why certain autonomous regions within Spain have more power than others. The implications of this research is that those with a shared identity will continue to push for independence no matter how much autonomy they are given. Especially when restrictions from the central government start to limit regional power, as seen in the COVID-19 policies enacted by the Spanish government. Those within the autonomous regions of Spain will always feel separate from the state, choosing to be Galician, Basque, and Catalonian before Spanish. As a result, these regions believe that having more political and legal power is needed for regional governance, and they will continue to fight until is it achieved.

Abstract titles link to event detail pages.

CLARICE SANTOS
University of Nebraska–Lincoln
Unsterile Needle Acquisition among PWIDs in rural Puerto Rico: A Comparison between those in and out of treatment

The purpose of this study is to examine risk factors that increases the chances of engaging in unsterile needle use among persons who inject drugs (PWIDs) within rural areas of Puerto Rico and their current treatment status. There is an increasing problem with injection drug use and the transmission of blood-borne illnesses, in rural areas, especially rural Puerto Rico. However, despite the shifting epicenter of the issue, most of the current studies are focused on urban areas. Respondent driven sampling was used to recruit two groups of PWIDs. The first group included those who were not in any form of opioid agonist treatment and the second group included those currently enrolled in treatment. This data collection was supported by an NIH R21 grant (R21DA047304). Analysis was conducted in Stata and included a series of logistic regressions. The predicted probabilities of sourcing an unsterile needle by our independent variables (level of education, treatment status, and injection age) was also examined. Based on prior research, it was expected that participating in treatment will reduce injecting risk behavior, while PWIDs with higher education levels and older injection age will participate in less injecting risk behavior. By increasing our understanding of the drivers of unsterile needle use, we can inform the creation and implementation of harm reduction intervention, to decrease infection rates.

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