Congratulations to our incoming 2019-2020 Rebel Research and Mentorship Program Graduate Student Mentors
School of Allied Health Sciences
Following a sport-related concussion, clinicians administer balance assessments to determine if an athlete is demonstrating impairments in postural control, a sign of residual concussive effects.

Current assessment techniques are limited to subjective analysis that may not be sensitive enough to detect subtle balance deficits after a concussive event.

The purpose of my research is to assess the validity and reliability of a newly developed, portable balance device against gold standard biomechanical force platform technology during various balance tasks.

This technology may offer clinicians with a feasible and objective balance product to appropriately determine when an athlete is safe to return-to-sport.
Balance during quiet standing and dynamic tasks such as walking is an essential skill required for motor development and skillful performance of tasks. Children with autism spectrum disorder (ASD) exhibit greater instability compared to typically developing children during various static and dynamic postural conditions. However, the contribution of the muscular activity to these balance deficits in children with ASD is unknown.

Purpose: To identify differences in muscle function and balance in children with ASD compared to children with typical neurodevelopment during static and dynamic conditions.

Role of the undergraduate student
• Literature Review and Summary
• Subject Recruitment/Scheduling
• Data Collection
• Prepare abstract and poster for dissemination
My research focus is directed towards improving the quality of life of high risk infants. I am particularly interested in determining the health care utilization of preterm neonates (babies born prior to 37 weeks of gestation) and drug exposed neonates with Neonatal Abstinence Syndrome, NAS. The latter presents as a group of health conditions in babies experiencing withdrawal from certain drugs such as opioids used during pregnancy.

In the initial phase of the project, a systematic literature review, estimating the global burden of the aforementioned public health issues, will be conducted. The findings of this review will be disseminated through an informational poster and/or a manuscript for submission to a peer-reviewed journal. This project will help us obtain a comprehensive picture of NAS for performing meaningful comparisons across different populations.

Advisor: Dr. Patricia Cruz
My research focuses on the intersection between HIV and obesity. I am using a mixed methods design to study the prevalence and trends of obesity and overweight among people living with HIV (PLHIV) in Africa (using Nigeria as a case study) and the perceptions of healthcare workers about this double epidemic. My research uses both a quantitative and a qualitative approach to further understand this emergent phenomenon of obesity among PLHIV.

The collaborating undergrad student will join our team in transcribing audio files, attending research team meetings, coding the interview transcripts, doing background literature review, writing conference abstracts, or whatever tasks he/she feels comfortable with.

Overall, the undergrad will develop knowledge and skills in global health and mixed methods research.
Howard R. Hughes College of Engineering
In the quest to improve the efficiency of thin film solar cells, organic-inorganic perovskites have emerged with rapidly increasing efficiency of over 23% over 9 years. Thermal stability and high absorption coefficient make $A_2BX_6$ a promising perovskite material for photovoltaic application. To avoid toxicity issue of lead, analyzing alternatives of lead-free perovskite photovoltaic material is my research concern. In a continuation of my previous research on $Cs_2SnI_6$ perovskite, my future work will include $Cs_2GeI_6$. Ge as a candidate element for replacing Pb in halide perovskite compounds is suitable for light harvesting due to its higher photocurrent. Limited available literature on $Cs_2GeI_6$ requires more extensive research on this material. I expect my future work will lead to some great findings on this novel material.

Undergraduate mentee will do background literature survey, film synthesis and primary characteristics measurements.
The topic of research is: “Study on approaches leading to development of innovation and creativity in engineering students by team working”.

This collaboration works on:
• Team building techniques
• How to set and establish the purpose of the team
• The meaningful results the team is being asked to maximize the creativity of the group.

The mentee will work on:
• Approaches and techniques being used at the most reputable universities to apply the engineering attitudes in a profitable manner
• Comparison between above techniques in terms of number of start-ups being developed in that area
• Finding the engineering research areas with the highest number of start-ups in US.
Steeped in an evolutionary framework, this cross-cultural project will examine perceptions of male facial hair patterns in three employment environments. We will be collaborating with faculty and student colleagues at Christ University in Bangalore, India.

The undergraduate student mentee will gain experience in research protocol development and data collection and analysis as well as communication and professional skills through writing, presenting, and publishing results.
In the Department of Anthropology at UNLV, Nutrition and Reproduction (NAR) Lab has research interests broadly on the topics of nutrition, maternal health, hunter-gathering/foraging populations, and reproduction. In 2016 and 2017, I gathered data in Northern Tanzania, East Africa, among the Hadza foragers for my master's research project and pilot work for my PhD.

The project sought to interview Hadza mothers (n=84) on their birth experience, social support, and rituals associated with pregnancy, labor and delivery, and childbirth as a whole. I am currently in the process of transcribing all of the interviews with a local research assistant, and once completed, there will be 160 interviews that need to be analyzed and reviewed.

In collaboration with an undergraduate student for the RAMP program, the main requirements of the project will be initial data entry in SPSS and/or Excel, thematic coding and analysis, statistical analysis of themes and demographic information, literature reviews, and write-up of the results. The culmination of the RAMP program mentorship will result in a research poster that can be presented at a conference in the spring.
HANA KUWABARA

Investigation of ImPACT and Sport Concussion, involves a dataset of over 50,000 high school athletes in Nevada from 2008 - 2017 who have taken pre- and post-concussion assessments using the ImPACT neurocognitive testing battery. This longitudinal, state-wide database may be used to shed light on various related research topics such as the psychometric properties of the ImPACT, multicultural assessment, the clinical utility of the ImPACT, sandbagging, and more. While the research team is still narrowing the specific questions we aim to address, we have been reading the literature diligently in order to use this uniquely large dataset in the most efficient and effective way possible.

An undergraduate student mentee would gain experience in working with a big dataset, literature reviews, data coding and data analysis. Additionally, they will have the opportunity to write/submit an abstract, create a poster, and present at a national neuropsychology conference.

Ph.D. student, Department of Psychology
Advisor: Dr. Daniel Allen
Aileen’s research will investigate ingroup bias in perceptions of stereotypes. Specifically, the study aims to provide insight into whether or not individuals favor the stereotypes of their own racial ingroup more than the stereotypes of other racial groups. The study will also determine if the favoring of ingroup stereotypes is due to racial group saliency or differences in trait preferences.

Aileen’s RAMP mentee will have the opportunity to manage the dataset and run statistical analyses for the project. They will also be able to assist in developing a poster for presentation at a national conference and writing a manuscript for publication.
Evidence-supported, culturally sensitive, psychological services for collegiate athletes is limited. To contribute to this literature the current research project, “The Investigation of Differences Ratings, and Rankings of Problems and Importance of Culture in Student Athletes as compared to Non-Student Athletes” aims to (1) Examine potential differences between student athletes’ experience of sport problems, importance of sport, offensive remarks toward their choice culture, and the importance of culture across different sport types (i.e., NCAA, Club, Intramural athletes), (2) Examine the correlations between experience of sport problems, importance of sport, experience of offensive remarks toward their choice culture, and importance of culture and mental health, and (3) Analyze potential differences between student athletes and non-athlete college students’ experience of offensive remarks toward their choice culture, and importance of culture.
A comprehensive and systematic review of current athlete mental health practices, beliefs about mental health services, and appropriate interventions is required to inform the public and field. These topics will be covered in my RAMP research project titled: A Systematic Review of Mental Health in Athletes: Intervention, Perception, & Prevalence. The proposed study will conduct 3 comprehensive reviews that are specific to athletes’ mental health (Evidence-Based Mental Health Interventions for Athletes, Athlete Perceptions of Mental Health Services, and Prevalence of psychological disorders in athletes).

At program completion, my mentee and I would have created poster(s) and several manuscripts, disseminated our findings at a national and University-level research symposium, and be implementing the findings into UNLV TOPPS. In terms of skills, my mentee will have learned how to develop a research question, follow PRISMA guidelines for systematic reviews, conduct mass database searches, critical evaluation of articles, collaborative writing, presenting scientific research, and conference networking.
College of Sciences
My research project will explore the effects of sex differences on *Clostridioides* [*Clostridium*] *difficile* infection (CDI). CDI is responsible for the majority of antibiotic-associated diarrhea. Since other gastrointestinal diseases have shown that sex hormones can affect disease outcomes, our goal is to determine whether sex also affects CDI severity and disease progression. The implications of this study can be used to help refine future CDI treatment.

My undergraduate research mentee will be trained in various biochemical and microbiological techniques in our unique interdisciplinary lab. They will learn to practice biosafety level 2 precautions, care for laboratory animals, and develop their scientific thought process. I will encourage my mentee to present our research at a public symposium to help them become a more effective science communicator. Moreover, I hope that my mentorship will eventually lead my mentee to become an independent scientist who can formulate their own hypotheses and research questions.
This research project explores the facilitators, barriers, and readiness of domestic minor sex trafficking (DMST) victims to leave commercial sexual exploitation. The research project titled, Failure to Appear: Domestic Minor Sex Trafficking Victims’ Experiences with the Juvenile Justice System and their Readiness to Change, will increase our knowledge about victims’ experiences while trading or selling sex.

The undergraduate student mentee will learn how to navigate and use SPSS in order to run several data analyses, familiarize himself/herself with the literature surrounding sex trafficking, as well as create and submit a poster presentation to the Western Society of Criminology (WSC) during the Spring 2020 academic semester.
P.I.V.O.T (Place-based Investigations of Violent Offender Territories) is an investigative policing strategy that identifies criminal infrastructures in persistently violent locations. This strategy is a departure from traditional arrest based policing strategies and focuses on reducing disparities while obtaining substantial crime reductions in traditionally violent communities. The project represents a collaboration between UNLV researchers and the Las Vegas Metropolitan Police Department with the goals of (1) identifying and dismantling criminal networks of places and people to reduce violent victimization and (2) evaluate the impact and sustainability of this strategic policing effort.

As researchers, my mentee and I will be assisting officers in their investigations by engaging in the training of officers on crime science theory, evidence based policing practices, and assisting in systematically documenting policing activities associated with the PIVOT strategy. We will working to help the department evaluate which activities are most effective at disrupting crime opportunities during biweekly meetings.
Jaclyn Parker Keen

Ph.D. student, Department of Criminology and Criminal Justice
Advisor: Dr. Emily J. Salisbury

- **Project:** Dissertation
- **Topic:** Substance Abuse Treatment Programs inside Women’s Prisons (Oregon and Las Vegas).

- **My responsibilities:** traveling to both prisons, observing the current substance abuse programs, interviewing staff and participants, coding the data from my interviews for themes, providing an in-depth write-up of my experience and results.

- **Help from my mentee:** reading relevant research literature, creating an interview script, and analyzing the results of the interviews (entering data and coding).

- **Lastly,** we will present our findings at an academic conference!