Graduate College
Rebel Research and Mentorship Program

Congratulations to our incoming 2019-2020 cohort
Howard R. Hughes
College of Engineering
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 be supposed to 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.
Sophomore, Working towards my B.S. in Mechanical Engineering

Advisor: Dr. Mohamed Trabia

Graduate Student Mentor: Pouya Shojaeishahmirzadi

I feel that a research opportunity regarding any field of engineering will be tremendously beneficial, however, my primary research interests include aerospace, fluid dynamics, and green energy. My long-term career goals are focused on becoming an established engineer in the aerospace sector.

Because of the rapidly evolving nature of the fields that I’m interested in working in, I believe that this research opportunity will equip me with the skills and knowledge to be able to identify, conduct and implement contemporary and relevant research to solve complex problems and assist in the advancement of these industries.
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 $\text{A}_2\text{BX}_6$ 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 $\text{Cs}_2\text{SnI}_6$ perovskite, my future work will include $\text{Cs}_2\text{GeI}_6$. 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 $\text{Cs}_2\text{GeI}_6$ 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.
My research interests lie in the renewable energy field—more specifically, in the synthesis and characterization of materials for photovoltaic applications. Through the RAMP program and with the help of my mentor, I will gain experience in a professional research environment and learn more about the research process.

In the future, I would like to pursue a master’s and/or Ph.D. in Mechanical Engineering and continue doing work with solar energy to develop cleaner, more affordable technologies for the future.
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.
I am currently pursuing an undergraduate degree in kinesiology as well as fulfilling the pre-medical school requisites. My primary career goal is to become a specialized medical doctor although I do not know which specialty yet. I originally entered UNLV as a music performance major as I have been playing the cello for over ten years. I am always conscious of my body movements as it is necessary for understanding certain physical techniques pertaining to my instrument. Although Jason Avedesian’s research project is specific to concussion athletes and balance analysis, his project interests me because I view it as an opportunity to expand my knowledge of biomechanical functions in general. I expect to acquire a stronger understanding of human movement by participating in Jason’s research as well as strengthen my standing as a medical school applicant with additional research experience.
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 interests include pediatric and geriatric populations who have neurological disorders and experience reduced mobility and quality of life. I would like to better understand how the disorders restrict them in performing daily routine activities and develop intervention to improve symptoms and prevent deterioration through improved mobility. Career wise, my aim is to become a physical therapist who may potentially assist rehabilitating neurological patients.

Apart from receiving training in research methods, the RAMP program will help me to improve my communications skills at team meeting and scientific events, develop critical thinking, and time management, all of which are beneficial towards becoming a PT. Overall, the program will help to develop not only my academic skills, but my professional skills as well.
College of Liberal Arts
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.
I am interested in studying the development of racial biases among children and adolescents and how these biases contribute to differing attitudes and behaviors toward different racial groups. Knowing what stereotypes people prefer and what contributes to the development of these preferences, may assist me in my future work to be aware of how biases can affect people’s attitudes and behaviors and how to reduce negative consequences of these biases. The research participation component of RAMP will help me refine my communication skills through writing manuscripts and presenting the research at a conference. Participating in RAMP will ultimately better prepare me to pursue my goal to obtain a master’s degree in mental health counseling.
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 will 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.

Participating in the Rebel Research and Mentorship Program with my mentee, Sarah, will allow us to further this important area of neuropsychological research and give us the opportunity to share our findings at a national neuropsychology conference.

Mentorship is present at every stage of pursuing a career in clinical psychology. I hope to gain knowledge, insight, and experience in providing effective mentorship. By fostering these integral skills, I hope to grow as a mentor, researcher, and as a psychologist.
SARAH FLOOD

Senior, Working towards my B.A. in Psychology

Faculty Advisor: Dr. Daniel Allen

Graduate Student Mentor: Hana Kuwabara

My research interests have a neuropsychological foundation and I am currently interested in traumatic brain injury. Specifically, I am interested in the rates and effects of concussions within populations of high school athletes. I am also interested in working with the Deaf community in both research and clinical settings. Ultimately, I plan to pursue a career in neuropsychology, with a specialization in working with deaf individuals. The RAMP program will help me reach these goals by providing me with an excellent mentor to guide my research as an undergraduate. Additionally, this program will help me prepare for graduate school by allowing me to hone my research interests and to improve upon my interpersonal skills in professional environments.
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 will 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.
With the help of RAMP, and my mentor, I will learn the process of conducting research, analyzing data, structuring professional writing documents, and presenting research at a professional psychology conference. The RAMP program will help support my mentor and I to develop a working relationship and gain funding in support of our current research project, A Systematic Review of Mental Health in Athletes: Intervention, Perception, & Prevalence. The experience and skills I gain in working with my mentor in this project, will be invaluable to me in my goal to become a Clinical Psychologist to develop my own intervention programs to help college students and the array mental health challenges they face.
In the Department of Anthropology at UNLV, my lab has research interests broadly on the topics of nutrition, maternal health, hunter-gathering/foraging populations, and reproduction. In the Nutrition and Reproduction (NAR) Lab, I gathered data in Northern Tanzania, East Africa, among the Hadza foragers in 2016 and 2017 for my master’s research project and pilot work for my PhD.

The project, “Postnatal Maternal Health among the Hadza” has ceased data collection and is undergoing data analysis. The project sought to interview Hadza mothers on their birth experience, social support, and rituals associated with pregnancy, labor and delivery, and childbirth.

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.

The RAMP program is an excellent opportunity for graduate and undergraduate students to work together in the scientific process and build professional experience that will be invaluable for success.
MARLENA GATLIN

Senior, Working towards my B.A. in Psychology

Faculty Advisors: Drs. Alyssa N. Crittenden & Daniel C. Benyshek

Graduate student
Mentor: Kristen Herlosky

My current research interests include psychological illness & disorders. My career goals include attending Graduate School at UNLV to earn a Ph.D. in Psychology.

My current research experiences are in the Human Memory Lab. This lab has taught me how to conduct research with participants of all different backgrounds. I want to implement these skills with my mentors current research. Particularly analyzing interviews in the Hadza population. Which include observing maternal health habits, reproduction and nutrition. Part of these involves observing Post-Partum Depression in this group of individuals.

Participating in RAMP will help me reach my careers goals by walking me through research in a detailed aspect and presenting research at a conference.
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.
The purpose of this research is to have a better understanding of the principles of Sexual Selection Theory and Socialization applied to Human Behavior from an evolutionary perspective. By doing a cross-cultural study (The United States and India) that will examine the perceptions that different people will have about different facial hair styles in males, we hope to better understand how these perceptions influence the participants to make predictions about the personalities and skills of those males.

By participating in the RAMP program, I know I will learn a lot about how to conduct research, and improve the development and design of research protocols. It will also help me to learn more about the peer-review process, and with the help of my advisor Dr. Peter Gray, and Graduate Student Mentor Lyndsey Craig, I will be able to analyze data and how to prepare and design presentations.
Evidence-supported, culturally sensitive, psychological services for collegiate athletes is limited. To address this issue, I aim to fill these gaps through my research. To do this I will (1) examine potential differences between student athlete type (NCAA, club, Intramural) on their reports on sport problems, importance of sport, and experience of rude or offensive remarks, (3) examine the relationship between an athlete’s rating of importance of sport culture on their mental health, mediated by the level of agreement they report experiencing rude or offensive remarks, (4) analyze the differences between athletes and non-athletes in these factors.

In the future, I am to continue this work by conducting research either in a hospital or academic setting. Further, I aim to work with culturally diverse populations as a practicing clinician. Working in RAMP with my mentee will allow me to reach these goal by giving me the necessary skills to provide effective mentorship to others, as well as giving me the opportunity to collaborate with another student on research that address these issues.
Personally, I aim to attend a doctoral program in clinical psychology to become a clinical psychologist. My primary research interests include (1) improving interventions for underserved populations (e.g., LGBTQ+ and ethnic minorities), and (2) the effects of cultural identification on mental health.

Working with RAMP is an invaluable opportunity, which will help me reach these goals. Working with my RAMP mentor, I will be able to better reach these goals. By understanding how different cultures can influence mental health outcomes (e.g., sports and ethnicity), I can better serve minority populations in the future.

Beyond the scope of my individual interests, the tutorage of my mentor is invaluable in developing my ability to critically analyze research and their findings. With this insight, I will better appreciate the larger domain of academic research in psychology due to a deeper understanding of how research is conducted.
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.
My career goal includes graduating with my Bachelors in Kinesiology and minors in Neuroscience and Biology. I hope to apply to medical school and work to become a doctor in the future. My career goals include going back to my home country, Bangladesh, to raise awareness of different public health issues.

My research interests are on a broad spectrum of different cases that include diseases and health conditions that affect the general population. In the future, I would like to conduct my own research on global health that can possibly make a difference in the healthcare/medical field. Being a part of RAMP, I hope to learn more about research and become more aware of various issues. With that knowledge, I hope to increase public awareness. I am excited to work under the guidance of John. I hope to learn a lot from him and his research.
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.
My primary research interests are focused on the etiology and prevention in chronic diseases in the United States. In addition to my main interest, I enjoy learning more about the intersection of public health issues and the biological processes behind them. Participating in the RAMP program will allow me to gain the confidence in a professional research environment and will help me obtain the skills needed for graduate level programs. I am currently preparing to apply to medical school and have plans on becoming a family medicine physician. In the future, I also anticipate earning my masters in Public Health and being able to do community work in Clark County.
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.
MCKENZIE WASHINGTON

Senior, Working toward a Degree in Biological Sciences

Faculty Advisor: Dr. Ernesto Abel-Santos

Graduate Student Mentor: Jacqueline Phan

My goals are to get my Doctorates degree in Veterinary Medicine and ultimately teach Veterinary Medicine. I believe research will allow me to gain vital hands-on experiences needed to better prepare me for my future, including the proper care of laboratory animals, as well as learning proper execution of microbiological and biochemical techniques. I will be participating in research that deals with the Clostridioides [Clostridium] difficile infections (CDI) and what role sex differences could display within them. The RAMP program has placed me with a dedicated mentor that will help me gain and present myself with professional etiquette; Allowing me the opportunity to strive for goals higher than the ones I currently have for myself.
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.
My goal for the RAMP program is to become more familiar with the research process, broaden my knowledge within the field of Criminal Justice, and see how I could use research practices in conjunction with forensics. My main career goal is to be a Criminalist. I have always wanted to be a Criminalist so that I could practice forensics and help people. By participating in the RAMP program, I hope to gain valuable experience and knowledge about research and criminal justice, and make connections with graduate students and other people within and outside of the field of Criminal Justice.
My undergraduate student mentees and I will be exploring best practices for substance abuse treatment programs for women who are incarcerated. We will be traveling to two womens’ prisons, one in Oregon and one in Nevada. My mentees and I will be interviewing program participants and staff in both prisons and code our interviews for themes in order to gain a better understanding of what gender-responsive treatment looks like with women offenders.

The ultimate goal of the project is to map the gender-responsive substance abuse treatment program in Oregon to our prison here in Nevada. Participating in the RAMP program will help make this monumental project possible. My mentees will greatly assist me with this project by helping me develop the interview guide, code our interviews, and present our research at an academic conference.
MENYAUN MILLER

Senior, Working towards my B.S. in Human Services with Minors in Addiction Treatment, Psychology and Couples and Family Therapy

Faculty Advisor: Dr. Emily Salisbury

Graduate Student Mentor: Jaclyn Parker Keen

My goal is to obtain my MSW and JD and become a LCSW. I think I will be of better assistance if I am well-versed in the laws that affect the communities I wish to serve. I particularly want to work with women and children displaced due to domestic violence, substance abuse and/or mental illness.

Currently, my research and creative interests include influencing policies and advocating for women and children. I have been working tirelessly on drafting a business plan for a non-profit, self-sustaining transitional community for this demographic. The 24-month program will provide life skills, job training, counseling, education for both mother and child(ren) and legal services.

By participating in the RAMP program, I am hoping to gain knowledge about how to structure a substance abuse program within Atrium (the transitional housing community). Conducting interviews will provide access to data that will help me ascertain program effectiveness, as well as cost efficiency of such programs. I am also hoping that this research will help to facilitate reform within the prison system as it pertains to substance abuse programs.
My research interests are focused around public policy relating to the prison system as well as the use of psychology in the courtroom. More specifically, I am interested in the prevalence of substance abuse in homicide and suicide cases.

This program will provide a starting point for my future research into substance abuse policies concerning management and prevention measures.
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.
My research interests include the study of criminal behavior, the human condition, and understanding how criminal networks can be evaluated and dismantled.

After university, I plan to obtain my Masters in Criminology and continue to conduct research. Ultimately, I want to be a Special Agent for the FBI’s Behavioral Analysis Unit and apply what I have learned through research to be successful in my career and make an impact in the field of Criminal Justice. Afterwards, I plan to be a professor and share my experience and knowledge with my future students.

RAMP will give me the opportunity to achieve the aforementioned goals through a practical examination of crime-place networks and assisting my mentor to conduct research in collaboration with the Las Vegas Metropolitan Police Department.