

**Engagement Opportunities in NASA STEM (EONS)
FY23 NASA Research Announcement (NRA) NNH23ZHA001N-MCA**

MUREP Curriculum Awards (MCA)

Title: Enhancing IDEAS at a Minority- and Hispanic-Serving Institution through research and education for underserved students in partnership with NASA

Institution: University of Nevada, Las Vegas

City/State: Las Vegas, Nevada

PI: Ashley Blackwell

FY: 2023

This proposal strives to break down barriers by strengthening faculty training and student research and educational capacity with paid opportunities in partnership with NASA centers and people. Curriculum will be developed in areas that align with many NASA Mission Directorates. Workshops will be offered to students and faculty with the help of several Subject Matter Experts that will then be developed into courses comprising a Space Health Certificate. Faculty professional development will be provided on culturally relevant and responsive instruction through partnerships with Subject Matter Experts, NASA centers, interactions between UNLV and UF, and the community. We will leverage current inclusion, diversity, equity, accessibility, and solutions (IDEAS) resources and revise and adapt them according to data driven needs. These opportunities will also be offered to the local grade/high school teachers to foster and enhance culturally relevant and responsive instruction at every level of education to create a pipeline of supportive environments and resources from the very beginning of educational experiences, paving the way to higher education a more diverse future STEM and NASA workforce.

In CA at The NASA Jet Propulsion Laboratory, students will work with mentors on engineering, robotics, and/or planetary science related NASA work under the guidance of Ms. Jenny Tieu, the Education Project Manager. In TX at The NASA Johnson Space Center students will have opportunities to conduct work related to flight- and ground-based astronaut studies examining sensorimotor and vestibular adaptation with NASA Neuroscientist, Dr. Scott Wood. At The University of Florida students will implement translational assessments from rodents to humans with Dr. Rachael Seidler, expert in human motor control, and visit/tour The NASA Kennedy Space Center. In NY at Brookhaven National Laboratory, students will conduct work related to ground-based irradiation models in collaboration with radiation expert, Dr. Richard Britten. At all sites, students will have opportunities to tour facilities, and attend educational lectures and research symposiums.

Virtual opportunities to interact with Subject Matter Experts will also be provided in the form of traditional lectures and symposiums/workshops. Our goal is to expose students to potential careers and pathways in STEM and specifically, NASA, to increase IDEAS and enhance workforce diversity. STEM support will be provided through new equipment and materials for courses and research to enable translational rodent to human neural and behavioral work at UNLV that are relevant to NASA priorities. Various strategies will be used to recruit students into new experiential activities. Longitudinal quantitative and qualitative data will be acquired, used to tailor material, and reported to NASA with the Independent Evaluator. UNLV is a R1, high research intensity university, funded at a R2 level; this proposal will provide educational/research paths and paid experiential learning opportunities for students with NASA. Activities will provide financial and mentor support that may have life-long impacts on students, forming foundations for future research collaborations and careers.