

## **MUREP Precollege Summer Institute (MUREP PSI) Awards – FY2023**

**Title:** HAWKS MUREP Precollege Summer Institute (PSI)

**Institution:** University of Maryland, Eastern Shore

**City/State:** Princess Anne, MD

**PI:** Joseph Arumala

**FY:** 2023

### **Summary:**

The HAWKS MUREP Precollege Summer Institute (PSI) in response to the NASA's Office of Science, Technology, Engineering and Mathematics Engagement (OSTEM) Minority University Research and Education Project (MUREP) solicitation from HBCUs and PBIs is submitting a 5-yr (2023-2027) grant proposal to execute programs that will benefit underserved and minority high school students. The proposed HAWKS MUREP Precollege Summer Institute has been designed to increase participation and retention of historically underserved and underrepresented high school students in STEM areas and equip them for success in college STEM degree programs and eventually STEM careers. NASA Wallops Flight Facility has agreed to partner with UMES in this project whereby the high school student participants will have access to Wallops Engineers, Scientists and Facilities for mentoring, job shadowing and involvement in real-life STEM Projects, Research and Activities.

The Activities that will be executed every Year will be similar. The Activities will include Wind Tunnel Design and Testing, Job Shadowing, The Basic Concepts of the physics of Electricity and Magnetism, Hands-on Robotics Activities, Virtual Reality Laboratory and Training and Field Trips to the NASA Goddard Space Flight Center in Greenbelt, Maryland to further increase the exposure of the PSI participants to NASA mission and operations. They will have an opportunity to interact with NASA professionals, scientists and engineers in the Center. The field trip to the Smithsonian National Air and Space Museum in Washington DC will teach the PSI Participants the history of aviation and space travel by the various exhibits of aircraft, spacecraft, missiles, rockets, and other flight-related artifacts. To maximize the educational gain, the services of a Tour Guide will be obtained for the tour.

In addition, the students will watch a related IMAX film. In addition, the Participants will be prepared for college by Master Teachers in English and Mathematics with the objective of achieving improved scores in the Scholastic Aptitude Test (SAT) which is still used for admission into many colleges and universities. This will also include strategies for improved and effective oral and written communications.