

## **Undergraduate and K-12 training in hypersonics and harsh environment testing**

Program Officer: Dr. Kimberly Jacoby Morris

The University of Central Florida (UCF), a certified Seal of Excelencia minority-serving institution (MSI) – designated a Hispanic Serving Institution (HSI), is at the forefront of these efforts. UCF strives to educate and inspire individuals to be exemplary physicians and scientists, leaders in medicine, scholars in discovery, and adopters of innovative technology. In alignment with UCF’s organizational mission, the PI Prof. Subith S. Vasu and Co-I Dr. Anthony C. Terracciano seek to increase the professional development capacity of individuals eligible to further the Department of the Air Force (DAF) mission. The team will ensure increased hands-on training in STEM through research opportunities for grades 13-16 and exposure to “cool” aerospace concepts for grades 8-12.

Under this proposed project, the UCF team will seek to conduct a multi-tiered training and recruitment effort that will: **(i)** Develop enhanced hypersonics relevant to optical and radio-frequency (RF) hardware; **(ii)** fund & mentor senior design research instrumentation projects; **(iii)** provide semester-long undergraduate research assistant (URAs) scholarships; **(iv)** partner with UCF’s Camp Connect to offer grade 8-12 students orbital mechanics laboratories; and **(v)** additionally for the Camp Connect students and URAs alike career discovery will be provided.

The PI and Co-I would seek to mentor the students in this program to encourage them to their highest potential. Grade 8-12 students would be encouraged to attend university; for individuals entering their senior year of high school, the PI and Co-I would develop research opportunities for exemplary individuals. Additionally, for URAs and senior design students, the team would seek to provide career counseling in which the students can articulate their professional life goals. A focus would be provided for all mentored students exposed to careers relevant to the DAF (e.g., commissioning as an Air Force Officer, employment with aerospace corporations, graduate school).