

NASA MUREP Aerospace Academy (MAA)

Award Year: 2018

Title: NASA FAMA Central Texas, Future Aerospace-engineers and Mathematicians Academy for Minority Youth

Organization: Texas State University-San Marcos

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Summary: The NASA FAMA (Future Aerospace-engineers and Mathematicians Academy) Central Texas for Minority Youth program aims to increase participation and retention of historically underserved and underrepresented students in STEM disciplines. This will be accomplished by offering early NASA STEM learning experiences for upper elementary and middle school students, family engagement, and professional development for teachers. These learning experiences will take place in technology-rich environments facilitated by technology labs. Student and family materials will be offered as bilingual resources (in English and Spanish) and instructional strategies that value the culture and multi-lingual skills of the majority of students and families will be employed. Central Texas continues to be one of the fastest growing regions nationally. As such, school districts in the region also continue experiencing student growth that represents the demographic shift of the state of Texas. The proposed program targets implementation in and support of three majority minority and economically disadvantaged communities in Central Texas. The goal is to inspire with NASA's missions and technological advances as inspiration for preparing a strong technological workforce. These communities will be served efficiently by partnering with community groups, industry, businesses, cultural centers and libraries. A targeted educator professional development (PD) program in science, mathematics and engineering will be offered to school district teachers who will be recruited as program instructors. A robust research agenda will be fully developed using mixed methods to measure short term intervention program impact, cognitive, social and motivational changes in participating students. This research agenda will also include improvement in STEM instructional skills for teachers. This work will be supported by an external evaluator who is expert in the field. He will serve as a key team member of the project. As an experienced NASA cooperative agreement partner in STEM engagement and STEM professional development projects, we will provide strategic approaches that build upon our success, improve and expand student reach, and establish additional partnerships built upon a vision of sustainable, quality growth.