

Strategic Education Alliance

Administered via Cooperative Agreement between JSC and San Jacinto Community College

Pasadena, TX 77504

Aerospace Academy

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PROGRAM DESCRIPTION

The San Jacinto Community College District/Aerospace Academy (SJC/AeroAcad) along with the Universities Space Research Association (USRA) uses the technical approach from the *NASA Education Strategic Coordination Framework* operating principles of relevance, content, diversity, evaluation, continuity, and partnership/sustainability to encourage students to consider careers in science, technology, engineering, and mathematics (STEM) through implementing various educational projects. Though this cooperative agreement was just initiated this year, most of the efforts included in the agreement were managed by SJC under a past agreement.

PROGRAM RELEVANCE TO NASA

The Strategic Education Alliance provides program management support for a large number of the NASA programs and efforts undertaken at the Johnson Space Center. In addition to program management, SJC/AeroAcad has methods in place to allow for the leveraging of outside funds to further enhance the capabilities of existing programs.

PROGRAM BENEFITS TO SOCIETY

The Strategic Education Alliance provides educational programming, employment opportunities, and training to targeted education groups through the following programs.

+ Higher Education & Student Programs - providing employment and educational opportunities that attract and prepare increasing numbers of students and faculty for STEM-related careers

- *Texas Aerospace Scholars (TAS)* - a variety of educational programs to encourage STEM education for High School students and Middle School teachers at JSC
- *Reduced Gravity Flight Programs* - a unique academic experience for teachers and undergraduate students to propose, design, fabricate, fly, and evaluate a reduced gravity experiment.
- *Graduate Student Researcher Program (GSRP)* – a fellowship opportunity designed to increase the number of highly trained scientists and engineers in aerospace, space science, space applications, and space technology
- *Undergraduate Student Research Program (USRP)* – awards degree-related research internships to recruit talented students in STEM-related disciplines
- *Space Grant* - Space Grants provide NASA funding for space-related research, education and public service projects through a national network of 52 university-based Space Grant consortia. Undergraduate training is provided through the mechanism of fellowship and scholarship awards. Most fellowship and

- scholarship awards include a mentored research experience with university faculty or NASA scientists
- *Faculty Fellows* – a fellowship opportunity designed to benefit engineering and science educators in their higher-ed classrooms
 - *NASA Post-Doctoral Program* – supports awards made to doctorate level scientists and engineers who can bring their special knowledge and research talents to work in research areas of interest to them
- + Minority University Research & Education Program (MUREP) - targets minority high school and undergraduate scholars who may be interested in following technical career paths
- *Motivating Undergraduates in Science & Technology (MUST)* – provides scholarships to undergraduate students in engineering, science, and technology fields – including a paid internship at a NASA facility
 - *University Research Centers (URC)* - The URC program helps establish minority university centers for excellence in conducting research relevant to STEM disciplines. This program typically involves five years of multi-project initiatives.
- + Primary & Secondary Education (K-12) - providing K-12 educators with the tools, experiences and opportunities to further their education and participate in unique NASA learning experiences to enhance their knowledge of STEM and inspire pursuit of STEM careers
- + Education Information Technology - providing a delivery mechanism to reach the next generation of explorers to inspire, inform, and involve them in NASA research activities and to pursue STEM fields
- *IT Support* – web application and website development and maintenance for education programs
- + Informal Education and Public Outreach - enhancing the capabilities of the informal education community
- *Special Projects* - providing access to our staff, research, technology, information, and/or facilities; with professional development opportunities for informal science educators

PROGRAM GOALS

The goal of this Strategic Education Alliance (SEA) is to encourage students to consider careers in science, technology, engineering, and mathematics (STEM) through implementing various educational projects.

PROGRAM ACCOMPLISHMENTS

In FY 2007 some of the major programs accomplishments included the following:

Reduced Gravity Program:

54 teams were chosen to participate in reduced gravity research flights from 19 states across the United States. In order to encourage experiments that could address issues and find solutions as NASA travels back to the Moon, the Reduced Gravity Student Flight Opportunities Program offered for the first time the opportunity to fly student-designed experiments in lunar gravity. Three teams flew the first lunar flights—Lamar University, Michigan Technological University and University of Missouri-Rolla.

Graduate Student Research Program:

Eight students were placed in research opportunities at the Johnson Space Center. Of those, five were new placements and three were renewals.

Minority University Research and Education Program (MUREP):

The Minority University Research and Education Program (MUREP) is administered through NASA's Office of Education to increase the agency's responsiveness to Federal mandates related to Historically Black Colleges and Universities (HBCUs) and Other Minority Universities (OMUs), including Hispanic Serving Institutions (HSIs) and Tribal Colleges and Universities (TCUs). The program staff is responsible for formulating and executing NASA's Minority University Research and Education Program (MUREP) budget and for developing agency-wide policies, procedures and guidelines that enhance the involvement of HBCUs and OMUs in the mission of the Agency. The cooperative agreement placed 52 students in these areas in FY 2007.

STUDENT ACCOMPLISHMENTS

During FY 2007 we have had over 300 students participating in the various programs offered through the Strategic Education Alliance.