

Curriculum Improvement Partnership Award for the Integration of Research
Administered by United Negro College Fund Special Programs Corporation
(UNCFSP)

Cooperative Agreement
Project Manager: William Whitney
Jet Propulsion Laboratory

PROJECT DESCRIPTION

The Curriculum Improvement Partnership Award for the Integration of Research (CIPAIR) into the Undergraduate Curriculum Project was designed to benefit Minority Institutions (MIs), NASA and the Nation by providing grant support to promote curriculum development in aerospace-related disciplines. CIPAIR also provides MIs project management instruction/modules for existing coursework and for developing new courses leading to concentrations, certifications and/or majors in project management.

PROJECT GOALS

1. Strengthen the curricula of selected two-year and four-year MIs in academic fields and technical programs directly related to the NASA mission;
2. Improve the quality and quantity of NASA-related science, technology, engineering and mathematics (STEM) curricula at these MIs; and
3. Increase the number of underrepresented and underserved students on the pre-collegiate and collegiate levels that study science, technology, engineering, and mathematics and that choose careers in NASA-related disciplines.
4. Develop students' skill sets and competence in applied science and engineering by providing enhanced curricula (minors, majors, and/or certifications) that provide or incorporate capstone courses and/or project management methodology; and
5. Develop the capacity of MIs to successfully leverage and sustain their programs by increasing networking among grantees to maximize current and future grant impact.

PROJECT BENEFIT TO OUTCOME (1,2 or 3)

CIPAIR supports Outcome I:

Outcome #1: Contribute to the development of the STEM workforce in disciplines needed to achieve NASA's strategic goals, through a portfolio of investments.

1.5 Targeted Institution Research and Academic Infrastructure

Output Measures

1.5.1 Number of participating states – Since inception CIPAIR has awarded grants to minority institutions in **19** states, **The District of Columbia**, and **Puerto Rico**.

1.5.2 Number of Minority-Serving Institutions participating – since inception CIPAIR has awarded **47** sub-awards to **45** different Minority Institutions.

Outcome Measures

1.5.3 Number of new research/technology development partnerships with other organizations – CIPAIR institutions have developed or strengthened over 20 research/technology-based partnerships as a result of their participation with NASA.

PROJECT ACCOMPLISHMENTS (CONNECTION BACK TO ANNUAL PERFORMANCE GOALS AND PLANS)

CIPAIR's goals and objectives are multifaceted. Specifically, it seeks to: (1) solicit and obtain proposals (from eligible institutions), which support NASA's mission; (2) review and recommend selection of grant recipients to NASA; (3) contract by Sub-grant Agreement with the selected institutions and fund same in accordance with the approved budget; and (4) manage the CIPAIR Program (a) by monitoring continuously recipient progress by obtaining and evaluating quarterly and annual reports from PI's; (b) by coordinating continuous contacts with PI's regarding contract management, reports, etc.; (c) by making site visits to grantee institutions (see below under CIPAIR Goals and Objectives for Year-four); (d) by anticipating future problem areas at grantee institutions and conferring with PI's to resolve same; and (e) by reporting to NASA regarding all of the above. During its history the following accomplishments were noted:

- Expansion of the CIPAIR Project to include 47 minority institutions that have obtained little or no prior NASA funding;
- Inclusion of 17 HBCU; 18 HSI; 7 TCU; and 5 OMI in the program;
- Representation of 23 two-year institutions;
- Increased exposure of the CIPAIR Project through press releases, conference presentations, and linkages with other NASA Programs;
- Implementation of Pre-Award Site Visit;
- Conducted technical assistance workshops;
- Dissemination of CIPAIR project information to potential institutions via information sessions at universities and/or STEM-related conferences, video conferences and web-cast meetings, internet postings, and mass mailings;
- Orientation and Project Management Boot Camp conducted for grantee institutions;
- Successful development of a project management framework for the CIPAIR project; and
- Aligned four NAFP fellows with ten CIPAIR PIs in the first NASA-Focused Project Management Training Session, which was designed to promote greater insight into NASA project management methodologies.

PROJECT CONTRIBUTIONS TO PART MEASURES (INCLUDE DATA PLUS EXPLANATION)

2006 Undergraduate Participants Reported – **1032**

1.2.3 2006 Undergraduate Participants Expecting to Seek Advanced Degrees - **4**

1.4.1 2006 STEM Courses New or Revised - **31**

2007 Undergraduate Participants Reported - **1396**

1.2.3 2007 Undergraduate Participants Expecting to Seek Advanced Degrees - **0**

1.4.1 2007 STEM Courses New or Revised - **28**

2008 Undergraduate Participants Reported - **780**

1.2.3 2008 Undergraduate Participants Expecting to Seek Advanced Degrees - **2**

1.4.1 2008 STEM Courses New or Revised - **46**

2009 Undergraduate Participants Reported - **1076**

1.2.3 2008 Undergraduate Participants Expecting to Seek Advanced Degrees - **5**

1.4.1 2008 STEM Courses New or Revised – **0 (All revisions were required prior to Grant Yr 3)**

IMPROVEMENTS (e.g. project management, efficiencies, etc.) MADE IN THE PAST YEAR

CIPAIR held three Pre-solicitation Workshops. The workshops were held at Johnson Space Center, Jet Propulsion Laboratory, and Langley Research Center. The workshops were held to recruit MI for the CIPAIR solicitation released in late May 2009. Of the 25 institutions in attendance at the three workshops, 10 submitted proposals.

CIPAIR also conducted two additional Technical Assistance Workshops. The first workshop held in early May 2009 hosted 47 tribal college faculty, staff, and students from 11 institutions. The purpose for the workshop was to increase the number of Native American students entering the NASA Stem pipeline, and to increase the number of proposals being submitted to NASA Higher Education Projects. The second workshop A Capacity Building Forum, created a venue for CIPA and CIPA II institutions to engage in professional development activities that would enhance their experience as they interface with NASA, other Federal Agencies and other institutions of higher learning. The event was developed to address specific needs as they pertain to smaller minority institutions. The initial workshops addressed *Identifying Your Institution's Core Competencies, Marketing Your Core Competencies, and Developing Strategic Partnerships*. In addition to these general sessions, several breakout sessions were facilitated to introduce participants to various types of funding opportunities. Of these sessions, there was one held specifically to discuss the nuts and bolts of becoming a part of a NASA Science and Technology Institute (NSTI) cluster.

PROJECT PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION

Atlanta Metropolitan College

Clafin University

Community College of Denver

East Mississippi Community College

Hartnell College

Santa Monica College

Talladega College

Tougaloo College