

California Space Grant Consortium Diversity Plan (2010 – 2014)

California has the highest number of students enrolled in degree-granting institutions (2.5 million in 2007). Despite such high enrollments, California has serious problems in the area of diversity for science and engineering disciplines. While the general population of California shows much diversity, low numbers of these underrepresented groups participate in science and engineering fields.

According to the California Postsecondary Education Commission (CPEC - 2007) only 21.4% of the students at University of California (UC – 10 campuses) System and California State University (CSU – 22 campuses) System are enrolled in STEM fields. Further calculations show that of the students enrolled in STEM fields at UC and CSU campuses, only 20% of them are from underrepresented backgrounds and 37% are female. Despite this demographic picture, the CaSGC is following guidance from NASA to stretch its SMART goals to achieve NCES (National Center for Education Statistics) levels for minorities and females in California. NCES statistics show that Blacks, Hispanics, and Native Americans comprise 36% of the students enrolled in California (NCES Table 228, 2007 fall enrollment) and that women comprise 56% of the students enrolled in California (NCES Table 211, 2006 fall enrollment).

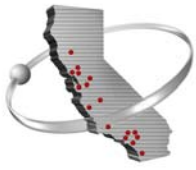
CaSGC SMART goals for participation of underrepresented groups in its scholarship/fellowship awards are now: 36% for minorities and 56% for females.

The CaSGC is taking the following steps to achieve these aggressive SMART goals:

- Creating a CaSGC MSI Working Group that addresses the recruitment and retention of underrepresented groups in STEM careers.
- Continuing to aggressively advertise Space Grant scholarship opportunities on each affiliate campus and promote such opportunities to minority science and engineering organizations;
- Within the CaSGC budget limitations, seeking out and partnering with programs at affiliate campuses that provide resources for under-represented groups pursuing STEM career paths;
- Partnering with NASA Center and industry programs that promote STEM career assistance to underrepresented groups;
- Working with the California Council on Science and Technology that is tasked by the California State government to provide a 2010 statistical report on STEM education at the higher education level. The 2010 statistical data relating to California higher education enrollments will allow the CaSGC MSI Working Group to better understand current California diversity issues and needs.

In this 2010 CaSGC Diversity Plan we provide a set of diversity goals and objectives for each NASA outcome and objective.

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



Objective 1.1: Faculty and Research Support

CaSGC has focused its diversity **SMART goals** in the following areas:

- Providing research Fellowships/Scholarship awards to CaSGC affiliates in support of research projects – Target goals for underrepresented students is 36% for minorities and 56% for females;
- Facilitating teaming arrangements between CaSGC MSI affiliates on NASA Mission Directorate-related research programs -- Target goal of 2 programs per year;
- Coordinating and managing student/mentor and faculty research experience programs at NASA Centers – Target goals for underrepresented students is 36% for minorities and 56% for females.

Objective 1.2: CaSGC Student Support -- Fellowship/Scholarship/Internships

Annual Fellowship / Scholarship/ Internships Funding Goal: Program Element Total Budget (Space Grant & other funds) is planned to allocate at least 25% of the Fiscal Year CaSGC budget).

- Fellowship / Scholarship / Internships Awards to Underrepresented Students Goal: SMART goals for participation of underrepresented groups are 36% for minorities and 56% for females.
- Involvement of Minority Serving Institutions (MSIs) in Fellowship / Scholarship / Internships Programs: CaSGC MSI affiliates will actively participate in the management, execution, and operation of the Fellowship / Scholarship / Internships Program

Objective 1.3: Student Involvement in Higher Education – Student/Mentor Workforce Development and Undergraduate Research Experiences

CaSGC SMART Goals for Student Involvement in Higher Education:

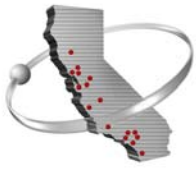
- Reach the goals for involvement of underrepresented students (36% for minorities and 56% for females) in these STEM-related projects,
- Increase the involvement of MSI affiliate institutions in every aspect of these programs so that at least 80% of MSI affiliates are involved in the programs,

Objective 1.4: Course Development – STEM disciplines.

One of the highest priorities of the CaSGC is to develop an effective aerospace learning environment that has both curricular excellence as well as hands-on skill development. The CaSGC sets the following diversity **SMART goal:**

- Involvement of a minimum of 20% MSI affiliates in STEM curricular development and sharing.

Objective 1.5: Targeted Institution Research and Academic Infrastructure



The aerospace-related research infrastructure in California is very large; therefore, the CaSGC will focus its resources on facilitating and coordinating the educational and “Human Capital” aspects of that infrastructure. The CaSGC diversity **SMART goals** are:

- Providing research Fellowships/Scholarship awards to CaSGC affiliates in support of research projects – Target goals for underrepresented students is 36% for minorities and 56% for females;

Outcome 2: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty.

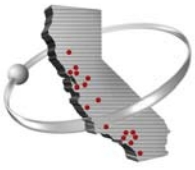
The CaSGC has set a path for a small precollege involvement (from a NASA Space Grant funding perspective) that has the Consortium playing an aerospace STEM-related coordination and facilitation role (management time) to the organizations on each of the affiliate campuses that have primary responsibility for precollege curriculum development, teacher education, outreach, and assessment. The CaSGC has a definitive set of diversity program objectives for the Pre-College area:

- Provide an active interface between the affiliate institution’s pre-service and in-service professional development programs and the NASA education and research resources with an emphasis on underrepresented minorities,
 - Qualitative Metric 1: Creation of a list of campus contacts for both pre-service and in-service professional development programs at all CaSGC affiliate campuses for dissemination of NASA education and research resources.
 - Qualitative Metric 2: Track announcements of programs communicated to this list to know how much CaSGC has provided to the community.
- Actively partner with affiliate campus programs that focus on encouraging underrepresented pre-college students (minorities and women) to select STEM careers.
 - Qualitative Metric 1: Creation of a list of campus contacts for underrepresented pre-college student programs at all CaSGC affiliate campuses for dissemination of materials to encourage students to choose STEM.
 - Qualitative Metric 2: Track announcements of programs communicated to this list to know how much we have provided to the community.

Outcome 3: Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA’s mission.

The CaSGC provides a small but directed budget for Outcome 3 (approximately 1% of the Space Grant Funds). These directed efforts of the CaSGC affiliates focus on a definitive set of diversity program objectives:

- Provide Informal Education information between NASA’s Research Programs and Missions and Education Offices and the California informal education community to increase learning, educate students, educators, and the general public on aerospace-specific STEM content areas, with special attention to diversity issues involving the nation’s future STEM workforce



- Qualitative Metric 1: Creation of a list of informal education providers, including museums, science centers, and NASA centers in California and provide information to that list.
- Qualitative Metric 2: Track announcements of programs communicated to this list to know how much we have provided to the community.