



Caltech Interim Report Overview For the James Irvine Foundation

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Introduction

This January Interim Report to The James Irvine Foundation provides a review of our ongoing diversity efforts and programs and progress reports on our studies of our students' academic achievement, with particular attention paid to the achievement of underrepresented minority students at Caltech. We continue to ask what is working and what is not? Where do we stand in relation to our four initial goals, outlined to the Foundation in October, 2000? How are our efforts to better institutionalize change and our commitment to increasing diversity on campus progressing?

The four diversity goals we laid out in 2000 spanned a broad array of activities:

1. Increase the number of underrepresented students and scholars at the Institute
2. Ensure that underrepresented students at Caltech reach their full potential
3. Assist underrepresented students who are pursuing study and career in science, math, engineering, and technology (SMET) fields
4. Embed diversity efforts and awareness of diversity issues across academic and administrative divisions on campus

The overview is organized around the Institute's four central diversity goals, summarizes the progress that has been made in those areas, and gives highlights from the attached narratives and information.

Increase the number of underrepresented students and scholars at the Institute

Meeting the goal of increasing the number of underrepresented students and scholars at Caltech is critical to our success. Over the past years and as documented in our reports, we have undertaken a variety of structural changes, personnel shifts, and new and expanded programs. For this interim report, the focus will be on undergraduates and graduate students. Our final report will discuss changes and efforts at the post-doctoral and faculty levels.

Undergraduate Admissions: changes and new strategies

As noted in our previous report, Rick Bischoff has started as Caltech's new Director of Undergraduate Admissions. During his first six months at Caltech, he has been quite busy hiring new staff; reengineering business practices to create greater efficiency in the processing of applications while ensuring equity in the review and ratings of each applicant's materials; increasing outreach efforts; and reviewing and creating new publications. The changes Rick designed to handle applications processing have resulted in Caltech mailing Early Action decisions two weeks earlier than in the past. In a highly competitive environment for the nation's top students, this is quite significant.

Another major change pertains to national recruiting. Each recruiting staff member has now been assigned a geographic area of the United States upon which to focus. As a part of this effort, high school visits have been implemented again along with regional programs. Staff are paying close attention to diversity as they select schools to visit. Although the student recruitment cycle begins a minimum of one year before the student applies, these efforts should bode well for the future in that they increase Caltech's

visibility and the Institute sends a clear message that all outstanding students interested in studying math, science, or engineering should consider Caltech.

The Admissions Office is developing closer ties and links with the YESS program participants, and office representatives were involved in presentations to the YESS participants this past summer. While it is still too early to comment on the application and admit rates to Caltech for YESS participants for this year, one YESS participant has already applied and been admitted in early action. Please see the YESS report included in this Interim Report. As part of their ongoing assessment, Erica O'Neal, the Assistant Vice President for Student Affairs for Enrollment Services, Rick Bischoff, and Brandi Jones, the Director of the Minority Student Education office, analyzed ways to best utilize the remaining Irvine pre-college educational outreach and recruitment funds. To build on both past YESS successes and attract new participants, the Minority Student Education Office and the Admissions Office are working on a joint educational-recruitment program, which would bring together a reunion of past YESS families with sessions on Caltech, college preparation and planning.

Rick has also been able to identify mathematically talented underrepresented students whom we have previously not recruited. Beginning with the 2006 recruitment cycle Caltech will be able to nearly double the number of talented underrepresented minority students we actively recruit. In a further effort to broaden Caltech's visibility amongst underrepresented minority students Caltech will be participating with the *Private Colleges and Universities Magazines* this year. The Multicultural edition alone will be mailed to 77,000 homes.

With regard to publications and communications, Rick has identified that Caltech has fallen short in terms of consistent communication with prospective students from their sophomore through senior years of high school. Hence, a lot of effort is being put into creating new and different publications that can be sent to students at various points of their high school careers. In the past, Caltech has sent roughly two communications to interested students compared to our competitors' 10-12 communications with the same group. The class that enters in 2006 will be the result of a communication plan that will offer four print communications to students between February and September rather than the one they have previously received. These communications will be supplemented by an active electronic communication program. The class that enters in 2007 will have received six communications between February and November of the sophomore and junior years rather than just one.

To be sure, these changes are long-term, and our short-term challenges remain. In this year's early action pool, there were still few African Americans and Latinos. However, we are confident that, if sustained and properly funded, these changes, along with the Institute's sustained commitment to providing diversity scholarships and meeting full demonstrated financial need, will lead to Caltech's ability to attract a more diverse student body in the years ahead.

Graduate Admissions: Gradpreview and the Graduate Recruiter position

As noted in prior reports, Gradpreview is an event designed to increase the presence of underrepresented graduate students in the sciences and engineering at Caltech. This program was started with seed money from the Irvine Foundation, and is now supported by the Institute, its academic

divisions, and NSF centers. In addition to the primary sponsors, the Office for Minority Student Education, Student-Faculty Programs Office, the Center for Neuromorphic Systems Engineering, the Center for the Science and Engineering of Materials, the Office of Public Relations, Campus Life, and JPL collaborated and contributed resources. It is anticipated that future funding of the program will also come from the Moore Foundation. Of particular interest is the participation of students from all groups underrepresented in science and engineering as well as those who can foster greater diversity on campus. Three divisions now participate in GradPreview: Engineering and Applied Science, Chemistry and Chemical Engineering, and Biology.

In November 2004, 22 prospective students came to campus in November 2004 and met with faculty and current graduate students while touring campus labs and the Jet Propulsion Laboratory (JPL) over the course of three days. All Gradpreview participants have all travel expenses for the visit covered and automatically have their application fees waived by Caltech. The students, who participated in the program, competed for admission through an online application process that required academic transcript information, an essay, and faculty letters of recommendation. Caltech faculty directly involved with graduate student admissions for their academic options reviewed these applications. It is the anticipated goal that such a review process will lead to a group of Gradpreview participants who are highly competitive for Caltech graduate school admission. Fourteen of the 22 students, who participated in the fall 2004 Gradpreview, are currently in their senior year of college, and eight of those applied for admission to Caltech. Overall, thirteen GradPreview participants have applied to Caltech this year. How does this compare to past years?

Year/GradPreview	Participants	Applied*	Admitted	Matriculated
November 2001	39	6		1
November 2002	61	21	8	5
January 2004	39	13	3	2
November 2004	22	13	in process	in process

* Includes participants and invitees from previous years

The formal admissions process at Caltech is still underway; though at this point, one Gradpreview participant has already been accepted and started at Caltech. Other participants included seven juniors and one sophomore who were invited to apply to Caltech's undergraduate research fellowship program for the summer of 2005. Please also see the MURF report for a discussion and more details on the impact of MURF on graduate recruitment and matriculation of underrepresented students.

While the total number of domestic graduate applications is down from last year (1,956 domestic applications for in 2003-2004 down to 1,490 applications this year, 2004-05), the number of applications from underrepresented students has risen from 137 to 154 applications, representing 10% of the total domestic applications. In Engineering and Applied Science, applications from underrepresented students for this coming year account for 12.7% of the total domestic applications. In the past five years, the number of graduate applications from underrepresented students has risen:

Year	Domestic Applications	Underrepresented Minority Apps	Minority Apps % of Domestic Apps
2000-2001	1,190	107	9%
2001-2002	1,964	113	5.6%
2002-2003	2,483	164	6.6%
2003-2004	1,956	137	7%
2004-2005	1,490	154	10.3%

Overall, the percentage of underrepresented minority graduate students at Caltech rose from 4.5% in 2001-02 to 5% in 2004-5 (from 50 in 2001 to 63 students this academic year).

As discussed in our last report, the new position of graduate recruitment coordinator will build on the momentum generated by Gradpreview, the Sloan Minority PhD program, the MURF program and other efforts undertaken by the Graduate Office and the Office of Minority Student Education. We anticipate finalizing internal discussions and hiring for this position in spring 05. We thank The Irvine Foundation for seeding this initiative, and believe it will strongly complement the other efforts already under way.

Ensure that students at Caltech reach their full potential

This interim report includes an extensive set of progress reports on the studies of undergraduate student achievement at Caltech, with particular attention paid to underrepresented minority students and the FSI program. These analyses are still in progress, and we anticipate their completion in spring 2005. Please see the reports for a full discussion. In addition, please see the separate report outlining the work of the Office of Minority Student Achievement in building programs and community for underrepresented

minority students on campus. Also attached to the Interim Report are research papers prepared by student participants in the Freshman Summer Institute.

Overall, the pursuit of more extensive intervention strategies which promote greater attention to high achievement and building a strong community of scholars appears to lead to constructive results for underrepresented students at Caltech. The office of Minority Student Education has been central to developing, implementing and refining these strategies. Strategies include a revamped Freshman Summer Institute with its early exposure to research, academic year activities with a high achievement focus, more deliberate career planning and advising for students, and more active participation in the Mellon Mays Undergraduate Fellowship program.

It should be noted that transitions in the MSE office over the years have presented difficult challenges for both students and staff, yet the staff and students continued to work hard to extend the vision of a high achievement focus and build a “community of scholars and promoting excellence.” As noted in our June report, and confirmed in conversations with students this year, more underrepresented students in recent years are pursuing and/or have indicated their plans to pursue graduate degrees in science, engineering, or mathematics fields. As compared to previous years, less underrepresented students fall into the lowest GPA categories, and more underrepresented students in recent years are in GPA categories 3.0 and above. This is important progress, which is not visible if one simply examines mean GPA statistics. Please see the sections on the Freshman Summer Institute and appendix B found in the Student Achievement Study in this Interim Report.

Assist underrepresented students who are pursuing study and careers in SMET fields

Our YESS and MURF programs continue to demonstrate important progress and success. These programs are key to our Institute goal of assisting underrepresented students to pursue study and careers in science, math, engineering, and technology (SMET) fields. In both programs, the pool of applicants has grown and the academic quality of the students has increased. The Minority Student Education office also participates in other educational outreach activities in the Pasadena/Los Angeles area. Please see the individual reports for a fuller discussion and update on these programs.

On a broader level, the extensive state-wide and nation-wide work undertaken by David Levy, Caltech's Director of Financial Aid and his colleagues has changed the landscape of financial aid. They have dramatically extended the visibility and accessibility of colleges, including Caltech, by making the information regarding access to and affordability of college readily available to tens of thousands of families through a variety of media. These include workshops, phonathons, presentations, CDs, and even reality shows. Please see the article in this Interim Report on the Cash for College programs.

Embed diversity efforts and awareness of diversity issues across academic and administrative divisions on campus

Since 2000, Caltech has instituted several new programs and committees as well as strengthened others. The institutionalization of diversity projects on campus and sustainability of our efforts continue to be a high priority for Caltech. Examples of programs and committees created under the auspices of the Irvine grant to increase awareness of diversity issues on campus

include the President's Diversity Initiative Fund, the President's Lecture Series on Diversity, the Diversity Progress Group, and the Diversity retreats for administrators.

The Irvine Evaluation Team's site visit in August 2004 provided some useful feedback to the campus, and the Team's follow up letter was distributed to all the participants in the site visit as well as to the senior academic administration. Following the August site visit and feedback by the Irvine evaluation team, the Administrative Committee on Diversity and Minority Affairs (ACODAMA) spent time in the fall quarter discussing next steps and strategies for the committee and campus. Under the leadership of Professor Scott Fraser, Chair of ACODAMA, the committee identified areas for action, including hiring and recruitment and campus climate. President Baltimore also asked the committee to broaden its purview to include gender issues, which the committee accepted.

Since our last report in June 2004, ACODAMA has authorized funding from the President's Diversity Initiative Fund for speakers during Martin Luther King Jr. Week, and monies to support the creation of a gay, lesbian, bisexual, and transgender lending library. As in past years, the President's Office has also contributed some monies to the Initiative Fund so to help ensure the fund's sustainability, and to enable the Fund to distribute to diversity projects that involve a variety of constituencies. Please see the report and attachments on multicultural activities taking place on campus for more details and information.

We are pleased to continue the President's Lecture Series on Diversity, which is supported by the President's office and other campus sponsors. This academic year, Dr. France Cordova will come to campus on Wednesday, March 9, 2005. Cordova, the first Latina chancellor in the University of

California system, earned her Ph.D. in Physics at Caltech. The oldest of 12 siblings, Cordova was named a chief research scientist for NASA in 1993.

Charles Vest, professor of Mechanical Engineering and President Emeritus of MIT, has also been invited to speak about his lead role in diversity efforts at his school during the spring quarter. Each speaker joins students and postdoctoral scholars for a lunch meeting. This is followed by a lecture open to the community and a reception.

Last academic year, the Diversity Progress Group did not meet in the fall and winter quarters, and then resumed meetings in May 2004 and July 2004 to discuss the draft Statement of Community for Caltech. This has been over a three-year process that began with the group identifying the need to develop a stronger and more inclusive statement of the Institute's commitment to diversity, followed by the development of focus groups with the entire campus community to create a draft statement. After pulling together all the information from the focus groups, it became obvious the ways in which the existing Diversity Statement could and should become more inclusive. The statement was rewritten and renamed the Statement of Community based on this community input.

At present, DPG, now coordinated by Erica O'Neal, Assistant Vice President for Student Affairs, is spearheading the effort to finalize a new Statement of Community for Caltech. Focus groups will be conducted again with the entire campus community in January and February 2005 to gather a response to the new draft and make any necessary changes prior to sending the Statement to the Faculty Board, President, and Trustees for final approval. It should be noted that all focus group facilitators are volunteers from the Caltech community who have been trained by April White, Director of Staff Education and Career Development at Caltech.

Next Steps and Plans

The Institute anticipates the continuation of the programs and initiatives seeded and expanded by the Irvine Foundation grant. We plan to leverage funding from the Institute with funding from the Moore Foundation, and a variety of other governmental and foundation sources. These programs have proven to be successful and necessary steps in our continuing progress toward the four Institute goals we outlined to the Foundation in 2000. To be sure, as noted in the Evaluation Team's letter, the campus is still grappling with a number of key challenges. At the same time, the changes enabled at Caltech under the Irvine grant has meant that the infrastructure of the campus has a greater capacity to make progress on many issues, and programs and initiatives have demonstrated greater effectiveness in addressing our diversity goals.

Contributors to this report

The following individuals also contributed to the overview and attached sections: Erica O'Neal, Brandi Jones, Milton Mitchell, Athena Castro, David Levy, Carolyn Ash, and Carol Casey. The student achievement study team consists of Miriam Feldblum, Will Terry, Debi Tuttle, Brandi Jones, and Leila Gonzalez (for FSI). With the assessment infrastructure more solidly in place, the Diversity Progress Group was also able to provide input and review of this interim report and overview prior to its being sent to the Foundation. The draft report and sections were placed on the diversity website documents section for downloading and comment.