

## Education abroad program description, summary of pilot in Chile

**Rationale** Very few undergraduate students interested in health science careers participate in education abroad programs. Similarly, relatively few biomedical science faculty spend any time working in other countries, even though most at research institutions have the opportunity through sabbatical programs. One of the major barriers to leaving the home campus for a semester or year abroad is that it can often causes a major disruption in progression toward degree for students in biology where there are many requirement and in research progress for faculty where there are generally a number of graduate students and/or postdocs requiring supervision. This new initiative was developed in conjunction with UCIs 5 week summer travel-study program where the time commitment is relatively short but still can provide students and faculty with exposure to inquiry based learning in a small class setting at foreign campuses.

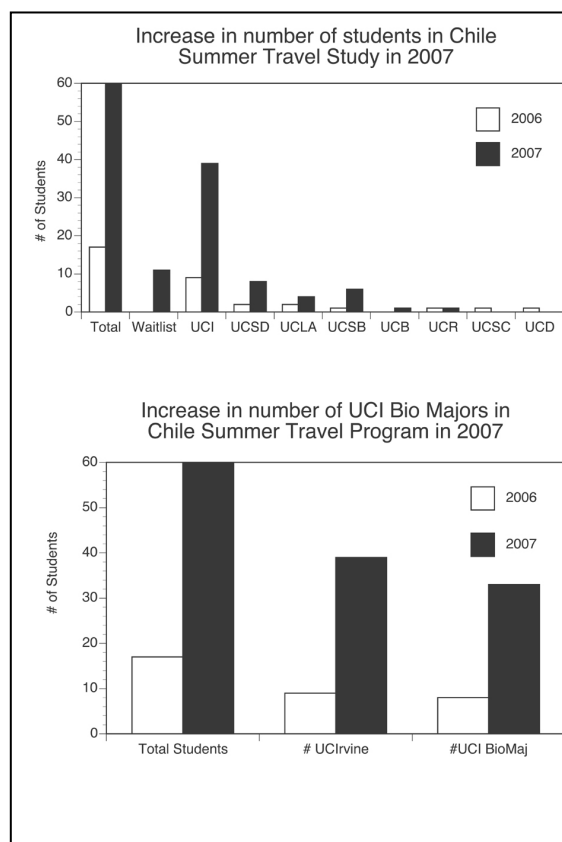
**Goals:** The O'Dowd HHMI Professor Program established a partnership with the UCI summer travel-study program with the following goals:

1. Increase the number of UCI students, specifically targeting Biology Majors, who participate in education abroad, as a mechanism to increase the breadth of their education, exposure to inquiry based learning, and to provide an opportunity for them to increase their proficiency with Spanish.
2. To create a mechanism for UCI biology faculty to participate in education abroad programs to gain experience using new teaching strategies, increase direct interaction with undergraduates, and expand contacts with institutions training potential future graduate students and postdocs.

**Implementation:** The decision to locate the pilot program in Chile was based on the fact that Universidad Andres Bello (UNAB) has modern research biology laboratories and two existing graduate program in biology, the academic offerings were already focused in biology (a mixture of upper division, and nonmajors classes), and it had been undersubscribed. O'Dowd was the UCI faculty involved and the program was put in place, advertised, and administered in Summer 2007 in conjunction with the UCI Travel-Study Program as well as the program coordinators at Universidad Andres Bello.

### Outcomes:

Progress toward Goal 1: By March 2007 there were 40 students signed up, the capacity was raised to 60, and all slots were filled. Additionally there were 11 students on the waiting list who did not get a chance to go. Of the 60 students who went, 59 were from the UC system. UCI:39, UCSD: 8 , UCLA: 4 UCSB: 6 Berkeley: 1, UCR:1 . One student was from outside UC, George Washington University. Of the 39 UCI students, 31 were Bio Majors, 1 Neurobio, 1 Dev Bio, 2 BioMed/Engr, 1 Chem, 3 Other.



Students also got unique exposure to a new culture both through their academics, particularly in HRD that focused on cases associated with priority health care issues in Chile, and through the travel/cultural aspects of the program. Many students worked hard at increasing their proficiency in Spanish, both through participating in the optional conversational Spanish lessons given each week, and through everyday interactions. The 8 students who stayed to do research indicated a high satisfaction with close interactions with Chilean students and faculty in the labs.

Progress toward Goal 2: As a UCI faculty member I got first hand exposure to use of PBL, and had lots of interactions both in and out of class with students that gave me new insights into how the students learn, what they are interested in, and what motivates them. I also established contacts with Neuroscience faculty and students at 3 academic institutions in Santiago through giving both teaching and research seminars for faculty from UNAB, Universidad de Chile, and the Catholic University. One graduate student from the UNAB lab of Assistant Professor Claudia Riedel, who hosted two of our undergraduates from UCI, came to work in my laboratory for the month of August. I have established a mentoring relationship with Dr. Riedel and will provide support for her career development in the form of travel funds to the US to learn some new techniques in my lab in the coming year.

## **B. Costa Rica: Established a partnership between the HHMI-UCI Professor Program and Dr. Tim Bradley**

The students will attend two lectures at UCI during Fall 2007, the first on the geological and biological diversity of Costa Rica, the second on the social and political history of Costa Rica. The students will be presented with the notion of economic development in concert with biologically sustainable development and the preservation of biological diversity. Butterfly farming in Costa Rica will be employed as a case study. On December 21, 2007 Dr. Bradley and the students will fly to Costa Rica for a 15 day field trip. Lectures will be provided each day on this trip. The students will visit several butterfly farms to examine first hand the procedures used and to speak with the farmers. This entails also extensive guided hikes through the native vegetation to study and examine its diversity and structure. They will travel to the far northern regions of the country, examine mid-altitude forest habitats, travel to high altitude cloud forest for which Costa Rica is justifiably famous, and travel to the drier savannah regions on the Pacific Coast. In each habitat, the students will be led in discussions of the flora and fauna observed and will examine the biodiversity in the context of the specific climatic and social influences.

## **C. Summary**

These programs are providing faculty with the opportunity and incentive to develop innovative teaching methods and gives students a way to participate in an education abroad experience while maintaining progress to degree. We hope to extend this to other Summer Session Travel-Study programs and intersession special topics courses to accommodate more faculty and students.