

Overview of GROWTH internship and those who participated

GROWTH offers international internships for graduate students and postdoctoral researchers to further their research knowledge and skills by collaborating with GROWTH project members from partner institutions. Three graduate students and one postdoctoral researcher participated in the internship program between May and November 2017 and all but one responded to the survey regarding their internship experience. Two of those survey respondents as well as one participant from Winter 2016-17 provided a more detailed account of their experience through individual interviews. All four of the participants went to Caltech for their internships. Two came from US partner institutions and two from international partner institutions. Three interns were male and one was female.

Impact of internship on respondents

Overall, respondents had **increases in their understanding of how to collaborate with researchers from other countries and disciplines (5 items) and their overall global competencies (3 items)**. One respondent said, "I got the opportunity to interact with people from many different parts of the project and thus have now a much better idea of the whole process." This is consistent with the data as all three respondents indicated on the survey that participating in the internship improved their skills as researchers. One of the respondents noted one major difference between his/her home country and the United States was that the professors at Caltech were more open to discussion and other points of view regarding their research, demonstrating the potential the internship holds for exposing students to new ideas and viewpoints.

The program was **less effective in increasing respondents' research knowledge and skills (5 items) and career and education interest**. However, this is likely because respondents already had a high level of interest and skillsets related to astronomy and astrophysics before participating in the program. Because these are graduate students and postdocs who have already invested time in the field, these findings are to be expected. It should be noted that one respondent shared that he/she had a new research interest that developed from the experience.

Suggestions for improvement

To improve the internship experience for future participants, respondents suggested: (1) providing information about the host institution and types of research happening outside of the student's projects, (2) simplifying the program application process or making it less arduous for students, (3) having internship participants share their research with each other, and (4) connecting participants with prospective undergraduate interns so they can share information about their experiences and research.

Respondents agreed that they were **motivated and engaged with their projects** and that their **mentor provided adequate supervision and guidance**, including feedback. All respondents rated the academic support provided by the host mentor and support provided by the host institution related to their questions, requests, and needs as very useful. Two respondents indicated that the support and assistance provided by the GROWTH staff during their time away was somewhat useful, and one respondent indicated the informational or welcome meeting with his/her host institution mentor was extremely useful.

Evaluator recommendations

Because internship participants seemed to get the most out of the collaborative experiences with other researchers, collaboration should continue to be emphasized during the internships. As a way to facilitate more collaboration, participants should continue to be encouraged to present their research upon return. Project coordinators should consider a form of mentoring between graduate students and postdocs who have visited with an institution and undergraduates who plan to intern at the institution.