



Hartnell College Office of Advancement and Development Grant Pre and Post Award Form

October 2013

1. Funding Agency/Organization and Title of Grant Project			
National Science Foundation - Research Experiences for Undergraduates			
2. Applicant		Fiscal Agent	
<input checked="" type="checkbox"/> Hartnell College <input type="checkbox"/> Other		<input checked="" type="checkbox"/> Hartnell College <input type="checkbox"/> Other	
3. Submitted		Submission Date	4. Awarded
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		8-27-14	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
If not submitted, why?		Reviewer Notes Attached	
Reviewer notes on file			
Hartnell College Board of Trustees report date:		11/4/2014	
Abstract:			
Attached			

PROJECT SUMMARY

Overview: Project Elements

- New REU Site, or renewal of previously funded REU Site: New REU Site proposal
- Project title: "REU Site: Hartnell College, CA" • Principal Investigator: Dr. Sewan Fan
- Submitting organization: Hartnell Community College District
- Other organizations involved in project operation: American River College, Sacramento, CA
- Locations at which the proposed undergraduate research will occur: Hartnell College, Salinas, CA; Stanford University, Palo Alto, CA; and Fermilab, Batavia, IL
- Main field(s) and sub-field(s) of the research: Physics
- No. of undergraduate participants per year: Eight (8)
- Summer REU Site, or academic year REU Site: Summer REU Site
- No. of weeks per year that the students will participate: 10
- Does the project include an international component or an RET component: No
- Name, phone number, and e-mail address of point-of-contact for student applicants: Dr. Sewan Fan, (831) 755-6875 (Science, Math, Eng Office), sfan@hartnell.edu
- Web address for [future] information about the REU Site: <http://www.hartnell.edu/physics/>

Project Summary. Hartnell's proposal for an *REU Site* will help improve the enrollment, persistence, retention, graduation and/or transfer of disadvantaged/underrepresented/academically talented students in Physics. Hartnell is the only affordable postsecondary option in Salinas Valley for a growing population of underserved, underrepresented and disadvantaged students from mostly low income, migrant families with low educational attainment.

The overarching goal of Hartnell's REU site proposal is to create a program to engage eight undergraduate students in internships doing original STEM research in physics, and offer them an opportunity to experience working in a professional laboratory setting. Four interns will work in Hartnell's new physics laboratory; two at Stanford University's Radiation Physics Division; and two at Fermilab National Accelerator Laboratory. REU activities will include: matching students to faculty and scientist mentors; hands-on learning; instruction in laboratory and research protocols; and significant lab responsibilities. Students completing this program will be confident in their laboratory skills and abilities, and be qualified to transfer to a four year university in their chosen STEM field. This REU is built on Hartnell's successful five year undergraduate research pilot program that achieved 100 percent persistence and transfer rates.

Intellectual merit is demonstrated by this REU Site: 1) applying rigorous physics and related experimental research training to develop and enhance the STEM talents of participating students; and 2) developing and empowering the talents of students from traditionally underrepresented populations to increase enrollment and success in STEM fields. The literature documents the impact of laboratory research in improving underrepresented undergraduate student success in STEM (Hurtado, et al, 2014; Russell, et al, 2007).

Broader impacts will be met by implementing an REU program that improves diversity and increases success for underrepresented, low income students in physics and related STEM majors. Based on experience, successful research interns will be valuable role models in encouraging and supporting underrepresented student enrollment and success in STEM fields. Research (Pew, 2010; others) documents Latino underrepresentation in high skill STEM fields.