Research Experiences for Undergraduates (Farley/Cornelius)

Students are recruited nationally, with preference for students from the western U. S., students from underrepresented groups, and students from institutions with limited research facilities. None of the students supported by this grant will be UNLV students. The program involves laboratory research, a seminar series, and a student poster session at the end of the summer. Students live in the dorms and eat their meals together, thus fostering group interaction. Students will have an opportunity to visit major national facilities at the Nevada Test Site and at the Advanced Photon Source (APS) at Argonne National Laboratory. Roughly half of the students will participate in research at the APS, but all students will visit these facilities, and all students will perform research using the facilities on the UNLV campus facilities. Thus students will get a research experience in both “Small Science” and at least an introduction to “Big Science”. Project evaluation will be handled by an external evaluator, the Nevada Center for Evaluation and Assessment at UNLV.

Research at UNLV has grown substantially in recent years, in materials, especially high pressure). The REU Site at UNLV is a strong one, having been supported by NSF from 1992 to 2004, from 2006 to 2008 and from 2010-2012. In 2005 and 2009, even in the absence of an NSF REU grant, a summer physics undergraduate research program continued, supported by small residual funds from 2004, by non-REU grants, and by Department funds. Many of the projects result in student co-authorship of presentations at professional meetings and/or publications in the professional literature. The summer seminar for REU students includes a session on ethics.

Many of today’s physics students will eventually use or work at DOE laboratories or other world-class national research facilities. An introduction to the world of Big Science is important for the students’ careers. Many students come from four-year colleges or universities with few research facilities, who would otherwise not have an opportunity to participate in research, or be familiar with national facilities. In the most recent grant (2010-2012), 29 % of our participants were women and 36 % of participants were minorities. A student who has had a research experience is more likely to attend graduate school and to choose a career in science. Of the 40 alumni of the two most recent grants (2006-2008 and 2010-2012) whose post-graduation activities are known, 72.5 % have gone on to graduate school in physics or a related field. The program broadens participation in the physics profession.

Project website: http://www.physics.unlv.edu/reu/