

**Title III Grant, Strengthening Institutions Program  
Faculty Innovations in Learning Project Proposal 2007-08**

Proposal for the Title III Grant \$500.00 stipends for **Individual faculty** Innovation Project

1. Project Description (include title, purpose, and scope of project; indicate how your project fosters student engagement and success in achieving SLOs)

The Computer Science department has been thinking about a way to provide our students with a “capstone” project that would give them a more engaging activity than can be accomplished in a typical classroom setting. I have gone to advisory meetings at schools where this type of activity takes place and investigated how we might implement a similar idea. This Title III grant would give me that opportunity. I would like to take advantage of my contact with a researcher at SCU to engage some of our outstanding CS students in a real project.

2. Project Outcomes (Student Centered)

I identified a project being led by the Robotics Systems Lab at Santa Clara University that needs some additional support. It is part of a grant that SCU got from NASA/AMES to carry out an automated biology experiment aboard a small satellite. Our student team would have the outcome of producing a website to support data sent back from the satellite and provide a way for the general public to access that data to use for educational purposes.

3. Assessment Strategies

I have organized the course for this semester as a special projects course CS201. We can assess the quality of the student work based on results of the project in meeting the needs of the SCU team.

4. Project Implementation Timeline

The satellite is scheduled for launch in late May so it works perfectly for our semester schedule. We will meet several times with the researcher (Chris Kitts at the Center for Robotics Exploration and Space Technologies (CREST))

5. Faculty Responsible for Development and Implementation

Jim Pham is an adjunct faculty member and he has agreed to lead this team due to his experience with the technologies needed and because the students with the relevant skills are from his courses. I will coordinate with the SCU team and assist our team with all aspects of the work needed. (This does not count toward my faculty load which is why I am applying for this \$).

6. Technology and Software Requirements; Distribution

We have the technology we will need for development because faculty in CS have servers in Hyman Hall that can be used for the project. Ultimately, the project will run at the CREST facility at NASA.

## Report on completion of project

May 21, 2008

I am happy to report that this project was highly successful in reaching our goals. We wanted to give some of our advanced computer science students a real-world experience that made good use of the skills they learned in our CS courses. For this first project, 3 students were selected to match the talent needed to implement the Beacon Processing System for CREST/NASA. This system will be used for the next microsatellite mission due to launch in June 2008. We worked in partnership with students from Santa Clara university let my Chris Kitts. He is the professor that wrote the original grant from California Space Grant Consortium Aerospace Workforce Development Program. Chris is very pleased with our results and the students have told me that they are very proud of this work and the opportunity that we gave them to apply their knowledge to a program that will be used for the public good. The mission is to remotely control a biological experiment on a satellite that will continuously send information back to Earth. This information is parsed into a database by our students and then made available to the general public as well as researchers and educators in a usable form. Although the satellite is not in orbit yet, our part is ready and tested. We will be monitoring its operation informally and hope to continue partnerships with SCU, CREST (Center for Robotic Exploration and Space Technologies) in future semesters at Ohlone. Dr. Kitts has already told me that he will be writing another grant and foresees a continued collaboration with us. I think this is a tremendous opportunity for Ohlone students. Our portion of this grant came to \$3000 dollars which will be distributed to the students. It was originally planned to be a single internship but we combined this idea with the idea of a capstone project and development of team skill since that is one of the most often cited requests from our CS advisory committee.