LTCC’s budding scientists to test theory at NASA site

By Stephen Ward

Fittingly, the idea that granted five Lake Tahoe Community College students the opportunity to conduct an experiment aboard a zero-gravity plane was created out of thin air.

“We came back from winter break and only had a little time,” Andrew Burton, one of the students, said about drafting a proposal to send to National Aeronautics and Space Administration. “It was incredibly stringent what we had to provide.”

LTCC science students flank instructor Cathleen Cox before heading to Houston with their science experiment. Photo/Provided

The group, former students of LTCC physics Professor Cathleen Cox, submitted a 15-page proposal detailing their study of gravity’s effect on soap bubbles to NASA in January for its Reduced Gravity Education Flight Program.

Two months later, the students received their acceptance letter. But with medical examinations, stress analysis and NASA inspections, the group has little time to celebrate.

In June, Cox and the four students —- with one being unable to attend — will travel to NASA's Johnson Space Center in Houston to perform their experiment on an aircraft flying 30 parabolic maneuvers in 25-second intervals over the Gulf of Mexico.

The study, titled the "Structural Integrity and Mathematical Modeling of Singular Soap Bubbles in Microgravity and Hypergravity," researches specific aspects of a bubble, such as its color pattern and longevity at different gravity levels.

The soap bubbles will be blown in a tube drilled through a polycarbonate box, which is located within a bigger box made of the same material with rubber attached to the corners. Overall, the entire experiment will fit within the glove box NASA provided the group with.

"(The experiment) is definitely tougher than what we thought, however it's still a really simple project compared to other projects, which is a good thing," Burton said.

Despite providing the students with research experience, Cox said being accepted into the program benefits the community as well.

"One thing that's good about (the program) is it promotes science in the Tahoe basin," Cox said.

Promoting science after the experiment is something the LTCC students have already started planning. Burton, a 24-year-old South Shore resident, said the group will work on curricula for schools throughout the Tahoe region to help students learn more about soap bubbles and gravity.

"First, we are required to develop a website, as well as

publish our paper and present our results at a conference," Cox said.

The members of the group have recently created a science club at LTCC. This year was the first time community college proposals were accepted into the program.

In addition to Andrew Burton, the students attending the trip to Houston include Melissa Thaw, Jeff Guarino and Jared Szi. Eva Gonzales also helped with the project.