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Contact:
Scott Roark
805-756-6530; sroark@calpoly.edu

Local High School Students Go to the Edge of Space Thanks to First-Ever Cal Poly BalloonSat Summer Intern Program

SAN LUIS OBISPO – Cal Poly Engineering provided a thrilling, hands-on learning experience for two Arroyo Grande High School students this summer.

The students, Allison Servey and Bill Shires, recently completed Cal Poly's first-ever BalloonSat Summer Intern Program, which culminated in a high altitude space imaging mission using a weather balloon, a recovery parachute, a digital camera and a GPS tracking system.

The six-week BalloonSat program was broken into three phases for designing, building and launching. Phase 1 was a tethered balloon project designed to take an aerial view of Cal Poly. Phase 2 was a low altitude aerial imaging mission to take a photo of the Central Coast.

Phase 3, which occurred last week, was designed for the balloon to go up 100,000 feet to the stratosphere, visualizing the Earth's horizon near the so-called "edge of space."

The Phase 3 unit consisted of a weather balloon attached to a cooler from 7-Eleven, which held a Radio Shack GPS transmitter and Canon Powershot camera. It was launched from Highway 58 east of Santa Margarita and traveled 161 miles, landing at a ranger station in Coulterville, Calif., in the Sierra Nevada.

The unit was expected to only go 50 miles. However, the team lost track of the unit after the GPS system failed.

The BalloonSat program is the brainchild of Ryan Sellers, a Cal Poly aerospace engineering grad student. Sellers worked closely with College of Engineering Aerospace Professor Jordi Puig-Suari, who served as an advisor. "We were amazed at how far the Phase 3 unit traveled – and were relieved to recover it," Sellers said. "It was in the middle of the wilderness and could not have

landed in a better place. It was practically on the ranger station's doorstep."

Experiences like this one present an opportunity for project-based learning outside the classroom while strengthening local high school science and engineering curriculum, Sellers said.

"Local high school students can experience the complete design process of an engineering project that will mirror industry standards," he said, "and they learn to adapt when things do not go exactly as planned."

For more information on the BalloonSat program, contact Sellers at *rsellers@calpoly.edu* or Puig-Suari at *jpuigsua@calpoly.edu*.

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Public Affairs Office
California Polytechnic State University
San Luis Obispo, CA 93407

polynews [at] calpoly.edu