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Balloon Launch Brings Delayed Success

Launch PSU (LPSU), the balloon satellite team lead by Department of Mechanical and Materials Engineering (MME) Professor Mark Weislogel, received an unexpected surprise in the mail on Monday, October 17, 2005. The package contained a somewhat weathered, but intact, balloon satellite that the group had launched from Millican, Oregon (near Bend) on July 16, 2005. The photo to the right was taken by a high resolution digital camera onboard the satellite at approximately 100,000 feet above sea level. At the top of the image is a ping-pong ball attached to the end of one of the satellite's antennae. The image clearly shows the curvature of the earth as well as Mt. Bachelor, the Three Sisters, and Broken Top. [Click here for a larger view.](#)



The LPSU team lost track of the balloon on its descent due to a communication system failure at launch and spent several days searching the high desert. Ranchers David and Janette Roth found the satellite balloon, which had the return address on the outside, and returned it to Portland State. The MME student team—which included Andrew Craig, Donovan Finnestad, Josh Hatch, Jesse Hendrickson, and Eric Wieber—was thrilled.

“It is just unbelievable that all the onboard still camera digital images managed to survive for months in the desert,” said Professor Weislogel. “When defeat ends this way...how sweet it is!”

SEPTEMBER 24, 2005 LAUNCH

Maseeh College mechanical and materials engineering students, under the guidance of Professor Mark Weislogel, conducted the third launch of a high altitude balloon out of Millican, Oregon on September 24, 2005. The launch was a joint Oregon State University (OSU)–Portland State University launch sponsored by the NASA Oregon Space Grant Consortium. Portland State provided Global Positioning System communication, tracking, and elevation diagnostics, in addition to the general balloon and retrieval hardware, while OSU provided payloads for imaging and other devices, such as a clever redundant tracking system, similar to those for tracking birds, to track the balloon payload when it is on or near the ground. The joint launch was a complete success:

- Balloon elevation of over 110,000 feet is reached
- Payloads are retrieved intact 50 miles downrange of the launch site
- Bursting of the balloon is witnessed by one student (Donovan Finnestad)
- Visual contact (by all participants) is made of the descent parachute within 500 feet from the ground

View this article at: <http://www.pdx.edu/cecs/news/7911/>

OSU will continue to conduct launches later this fall while PSU will prepare for further launches in spring 2006.

BALLOON LAUNCH PROGRAMS AT PORTLAND STATE UNIVERSITY

The Maseeh College's Department of Mechanical and Materials Engineering offers a number of ways that students can participate in balloon launch programs:

- ME406 (up to 4 credits)—LPSU course elective; teams of four MME students each year
- ME492-493 (8 credits)—MME Senior Capstone project; four-person team
- Volunteers—Projects are open to all, even non-engineering majors

The Launch PSU balloon launch program is sponsored, in part, by the generous support of the [NASA Oregon Space Grant Consortium](#).

Please see the [LPSU Web site](#) for more information.

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