

# For scientists, shuttle launch success crucial

CU, BioServe want  
to resume  
missions,  
experiments

By Todd Neff *Camera*  
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The space shuttle Discovery is scheduled for launch this morning at 8:39 MDT, and local scientists with the University of Colorado and CU-affiliate BioServe Space Technologies have a lot riding on its success.

CU is banking on a shuttle-based Hubble Space Telescope repair mission in late 2007 to install the CU-designed Cosmic Origins Spectrograph, which would have been mounted in March 2004 had the space shuttle Columbia accident not happened. BioServe wants to get back down to the business of running shuttle-based biological experiments.

The space shuttle Columbia disintegrated upon reentry on Feb. 1, 2003, killing all seven astronauts aboard and stalling the U.S. manned space program for 2½ years.

Discovery's planned launch two weeks ago was scrubbed because of a malfunctioning hydrogen-fuel sensor. The problem has not been fixed, but NASA officials are confident enough it isn't a true Achilles heel that they will proceed with today's launch, weather permitting.

BioServe, a nonprofit that focuses on NASA sponsored research, has kept busy with ground-based studies since the grounding of the space shuttle. But the nonprofits niche is space-based biological research, and the space shuttle has been its favored ride.

In the 18 years since its founding, BioServe experiments have flown on 24 shuttle missions, said Stefanie Contryman, Bio-Serve's director of business development.

Since grounding, BioServe's new space-based work has been limited to an International Space Station experiment using yeast to understand how near-zero gravity affects cell growth. A Russian Soyuz spacecraft carted it to the space station, Country-man said.

"We need the shuttle to launch; we need it to get back in space," Countryman said. "We want it to launch sooner than later, although of course we want them to be safe."

For the University of Colorado's Center for Astrophysics and Space Astronomy, a revived shuttle program could rejuvenate a major research program.

The Cosmic Origins Spectrograph would be 20 times more sensitive to infrared light than anything that has flown on Hubble, allowing scientists to look deeper into the cosmic past for clues into the origin and structure of celestial bodies. CU had to lay off three scientists and put off hiring 11 people when the instrument wasn't installed as planned in March 2004.

If launched, the ongoing scientific effort would keep 10 scientists and 20 students busy for years, said Michael Shull, a CU professor of astrophysics.

Shull said he would be at CU's Fiske Planetarium to field ques

tions today during the shuttle launch, and would be watching with "cautious optimism."

He said if NASA managed to launch two space shuffles this year, a Hubble repair mission would be on track.

Douglas Duncan, director of astronomical laboratories at CU, said repairing Hubble has been the shuttle program's most important scientific duty.

"Without the shuttle, Hubble dies, and any new vehicle will not be on time to work with Hubble," Duncan said.

Duncan said the danger to astronauts was real, but that "there is never any real exploration without confronting danger. Every one of the people on board knows that, and at some level that's why they are there."

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