

# Experiment wins free trip to the International Space Station

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A similar, but smaller experiment will fly to the International Space Station in 2013.

(Phys.org)—University of Central Florida experiment that could help explain how planets formed in our solar system has won a free ride to the International Space Station in 2013.

Physics professor Joshua Colwell's experiment is one of eight winners of the Space Florida [International Space Station](#) Research Competition sponsored by Space Florida and NanoRacks. [Space Florida](#) is Florida's spaceport authority and aerospace development organization. [NanoRacks](#) is a private company that operates the first commercial laboratory in [low-earth orbit](#).

Colwell studies the origin and evolution of the solar system, from the earliest stages of planet formation to the rings around Saturn and the evolution of comets and asteroids. He's had two experiments fly aboard space shuttles and conducts research with experiments that have flown on parabolic airplane flights and drop towers. He is a co-investigator on the Ultraviolet Imaging Spectrograph of the [Cassini mission](#), a spacecraft in orbit around Saturn since 2004, and since 2011 he has been the associate chair of the Department of Physics and the interim assistant director of the Florida Space Institute.

"The gravity of Earth swamps the kind of collisions of [dust particles](#) we are studying, making it difficult to get good data on the ground and even on parabolic flights," Colwell said. "It's exciting to get an opportunity to do this experiment on the space station where we don't have the same gravitational issues and we can observe these collisions over time, giving us information we cannot get on any other platform."

The UCF experiment headed to the space station is designed to explore low-energy collisions in the protoplanetary disk (the disk of dust and gas that surrounds the center of our [solar system](#)) to better understand the conditions and processes that lead to the formation of the building blocks of planets. The same kinds of collisions also take place in planetary ring systems, such as Saturn's rings. The information that will be obtained from the six-inch-box experiment on the space station may also shed light on how Saturn's rings were formed and give clues to the ring's age, something that's still open to interpretation.

The research competition was designed to inspire innovation and enable unique research opportunities and access to the [space station](#). Breakthroughs in material and life sciences, environmental monitoring, complex drugs and other consumer items enabled by space-based research benefit a broad range of emerging markets for government, commercial and academic customers. Research proposals were reviewed and judged by an independent and scientifically qualified team, based on commercial viability and overall benefit to mankind.

"We hope to inspire some significant scientific breakthroughs as a result of this competition, and reach the next generation of researchers and an international array of scientists and international companies," said Frank DiBello, Space Florida president in a press release.

A team of 15 independent judges evaluated the proposals based on defined value in the commercial marketplace, potential for future benefits in space travel, and professional qualifications of the applicants.

Colwell's team, which includes post-doctoral associate Addie Dove, is currently assembling the experiment in its lab at UCF with a scheduled launch aboard a SpaceX Falcon 9 rocket from Cape Canaveral Air Force Station in December 2013.

"It's very exciting for me," Dove said. "You don't get this kind of opportunity every day. I can't wait to see it go up to the station and then to help analyze the data we get back."

Provided by University of Central Florida

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