



FOR IMMEDIATE RELEASE:

ZERO-G Provides Colleges Unique Opportunity for Microgravity Research

As Part of NASA's Flight Opportunities Program, Collegiate Research Teams Test Technologies for Advancement of Space Exploration

ORLANDO, Fla. – December 18, 2017– [Zero Gravity Corporation](#) (ZERO-G®), the only FAA-approved weightless flight provider in the U.S, provided a microgravity test lab for collegiate research teams, most of which were funded by NASA's Flight Opportunities Program. Students from seven colleges collected crucial data from their individual technologies in the microgravity environment made possible by the parabolic flight pattern of ZERO-G's specially modified Boeing 727, G-FORCE ONE.

"G-FORCE ONE gives research groups the rare opportunity to experiment in a true zero gravity environment without sending payloads into space," said Terese Brewster, CEO of ZERO-G. "The accessibility of ZERO-G's research program gives collegiate teams multiple chances to collect data and perfect their technologies in-person."

The below experiments were conducted by groups during the research flight in November 2017:

- **Vegetable Production in Space** *Gadsden State Community College:* The team aims to increase the efficiency of the Vegetable Production System (VEGGIE), a plant-growth system developed by NASA and tested on the ISS. Their solution is to utilize a moisture sensor to determine when the system needs more water. During this flight, they tested the sensor's ability to measure water levels in microgravity.
- **Asteroid Mining Safety** *University of Central Florida:* The PRIME-4 experiment analyzed the outcome of various objects colliding with material similar to an asteroid's surface. By understanding what type of debris is produced when extracting materials from asteroids, mining companies will be able to improve the safety of future manned and unmanned in-space mining operations. [Click here](#) for more information.
- **Understanding Alzheimer's** *Rensselaer Polytechnic Institute:* The team utilized the unique nature of microgravity to study the formation of proteins into the material responsible for killing the neurons of those afflicted by Alzheimer's disease. This flight was in support of the team's experiment which is scheduled to fly onboard the International Space Station in 2019. [Click here](#) for more information.
- **Soldering in Zero Gravity**, *West Virginia University:* WVU's Microgravity Research Team tested a theory to utilize a magnetic field to improve the strength of soldered joints in microgravity. In this environment, there is a greater chance for vapor bubbles to form in the solder material, which decreases the strength of the joint. Applying a magnetic field may push these air bubbles out, strengthening the material.

- **Rocket Fuel Management** *University of Florida*: The team developed a special coating for the inside of the rocket propellant transfer pipe to maximize a spacecraft's fuel system efficiency. This is the team's second flight testing the coating in microgravity after a successful first flight in March 2017.
- **Accurate Fuel Measurement** *Carthage College*: Measuring spacecraft fuel levels without gravity is an industry-wide challenge and existing methods are inaccurate and require invasive hardware. The team from Carthage College is developing a system to measure a spacecraft's fuel levels using sound waves to vastly improve accuracy and lower gauging costs in a zero-gravity environment.
- **Heat Transfer in Microgravity** *University of Maryland*: Future space missions will require lighter, smaller and more powerful spacecraft, which will utilize more advanced thermal systems to remove heat. However, accurate data does not exist on how these advanced systems work in microgravity. The team is collecting sufficient data to build accurate models to predict how the systems will behave in space.

Research flights on G-FORCE ONE are devised to provide a platform for researchers to experiment and test innovative systems in the only FAA- approved, manned microgravity lab on Earth. These flights are available at an attainable price point and are proven to raise the probability an in-space experiment will be successful.

For more information about the ZERO-G research program and how to participate during the March or November 2018 flights, please visit www.gozerog.com and click on the Research Tab.

About ZERO-G

Zero Gravity Corporation is a privately held space entertainment and tourism company whose mission is to make the excitement and adventure of space accessible to the public. ZERO-G is the first and only FAA-approved provider of weightless flight in the U.S. for the general public; entertainment and film industries; corporate and incentive markets; non-profit research and education sectors; and the government. ZERO-G's attention to detail, excellent service and quality of experience combined with its exciting history has set the foundation for the most exhilarating adventure-based tourism. For more information about ZERO-G, please visit www.gozerog.com.

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