

MEDIA ADVISORY: 25-08

## NEW NASA SPACE EXPERIMENT RACK TO UNDERGO FLIGHT TESTS

CAPE CANAVERAL, Fla. - A new space experiment rack under development by NASA's Kennedy Space Center, Fla., and Space Florida will undergo initial tests this week. The rack will fly aboard NASA's first commercially-provided research flights on Zero Gravity Corporation's reduced gravity aircraft.

Flight testing of the FASTRACK Space Experiment Platform will be performed on four consecutive days between September 9-12 from Ellington Field near NASA's Johnson Space Center, Houston.

The experiment rack is designed to support two standard lockers that fit inside the space shuttle's crew middeck. It is being developed jointly by Kennedy and Space Florida to facilitate NASA and commercial use of reusable U.S. suborbital flight vehicles currently under development. The rack also will accommodate experiments aboard reduced gravity aircraft such as Zero Gravity's modified Boeing 727 jet, and may also be adapted in the future for orbiting vehicles and facilities.

FASTRACK will enable investigators to test experiments, apparatus and analytical techniques in hardware compatible with the International Space Station, and to perform science that can be carried out during the reduced gravity available for brief periods during aircraft parabolas. FASTRACK is designed to accommodate two single middeck lockers or one double locker, and other compatible experiment accommodations developed for use on the space shuttle and International Space Station.

Kennedy's FASTRACK project team will use NASA's commercial flight services contract with Zero Gravity Corporation to install and test a prototype rack along with three science investigations to verify interfaces, procedures and performance characteristics prior to fabrication of the FASTRACK flight units.

The three science investigations that will be performed on the flights this week are: baseline characterization data of the microgravity environment in the FASTRACK payload accommodations using instrumentation provided by NASA's Glenn Research Center; a fluid dynamics experiment by the University of Central Florida to study Faraday wave interfaces in microgravity; and tests of a biomedical sensor to evaluate its effectiveness in performing continuous, non-invasive monitoring and recording of human hemodynamics, or the movement of blood, during changes in gravity.

Another potential group of customers will be those participating in NASA's Facilitated Access to the Space Environment for Technology Development and Training, or FAST, Program. The FAST Program, which is managed by the Innovative Partnerships Program, will provide reduced-gravity or suborbital testing opportunities for emerging technologies developed by small businesses and others in partnerships with NASA.

With the expected emergence of commercial suborbital flights over the next few years, FASTRACK will support investigations that can benefit from longer exposure - between 2-3 minutes - of microgravity time, as well as actual spaceflight conditions.

The flights are sponsored and funded by NASA's Strategic Capabilities and Assets Program under the agency's commercial microgravity services contract with Zero Gravity Corporation.

The FASTRACK project has received support from the NASA Innovative Partnerships Program Office and the NASA Science Mission Directorate. It is being jointly developed under a Space Act Agreement between Kennedy and Space Florida, both of which have contracted with the Bionetics Corporation to accomplish design, fabrication and testing of the experiment rack. FASTRACK is a trademark of the National Aeronautics and Space Administration.

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