

NASA Moves 'FAST' For Reduced-Gravity Flight Testing Tech Projects

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(PhysOrg.com) -- NASA selected 17 technology demonstration projects for reduced-gravity aircraft flights to demonstrate whether emerging technologies can perform as expected in the reduced-gravity environment of the moon and Mars, or the zero-gravity environment of Earth orbit.

NASA selected the projects through its Facilitated Access to the Space Environment for Technology program, or FAST. The selected projects are from U.S. companies, universities and NASA laboratories from 10 different states. NASA will begin flying the projects during the last week of September.

The program is designed to incorporate new technologies into NASA's flight programs and other commercial aerospace applications. Reduced-gravity conditions can be simulated for periods of 25 seconds in an aircraft flying repeated parabolic trajectories.

The FAST program can reduce the risk of using new technologies during space missions by providing an opportunity to prove how they work in a reduced-gravity environment. The flights also can provide insight into why some technologies may fail before deploying them on a costly ride into the unforgiving environment of space.

The selected projects will address challenges such as monitoring human health, managing liquid propellants in zero gravity, maneuvering vehicles, assembling structures and manufacturing in space. Other

experiments will test components for new types of space propulsion, life support systems and tools for advanced biology research. Several projects deal with methods to process resources on the moon.

NASA will provide no cost, reduced-gravity flight time for the project test teams. The teams will be responsible for all other expenses. This is the third year of FAST flights, which will again use a commercial aircraft under NASA's Microgravity Services Contract. The aircraft will fly approximately 40 reduced-gravity parabolas for four days this fall, operating from Ellington Field in Houston.

The Reduced Gravity Office at NASA's Johnson [Space](#) Center in Houston will oversee the test operations. NASA's Glenn Research Center in Cleveland will provide support to the project teams.

For a complete list of the 17 selected projects, their associated leading organizations, partners and information about previous FAST flights, visit:

www.nasa.gov/offices/ipp/innov...ator/FAST/index.html

Provided by JPL/NASA

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