

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch services, Missions, Operations and Facilities (2)

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DEVELOPING THE MICROGRAVITY MARKET FOR COMMERCIAL SPACE TRANSPORTATION
SYSTEMS

Abstract

As a result of NASA's Commercial Orbital Transportation Services (COTS) initiative, regular cargo transportation to and from Low Earth Orbit (LEO) will soon be available on a commercial basis. Furthermore, the International Space Station (ISS) will soon be complete. These two milestones open an unprecedented opportunity for routine research using microgravity in LEO. Microgravity offers a unique window on biological and physical processes. Because microgravity has not been routinely available, its benefits are not well known by the broad research community in biotechnology, nanotechnology, combustion, materials, fluids, and other fields. Market development is thus needed. As a first step, a competition was conducted in 2009 which offered a free flight of a microgravity experiment on a COTS demonstration launch to LEO by Space Exploration Technologies (SpaceX). The competition also offered a 25,000 grant from the Heinlein Prize Trust. This competition was widely promoted and attracted a range of proposals. This paper