



FOR IMMEDIATE RELEASE

Release No: APR-252
Contact: Patricia Woodside
Director, Public Relations
(703) 396-6304
pwoodside@aurora.aero

Aurora Flight Sciences Wins NASA Contract for a Mars Orbiting Sample Retrieval Rendezvous and Docking Testbed (MOSR/RDOS)

Cambridge, MA, April 20, 2010 – The National Aeronautics and Space Administration (NASA) has awarded Aurora Flight Sciences, in collaboration with the MIT Space Systems Laboratory, a contract to develop a testbed for optically-guided rendezvous and docking with a sample in Mars orbit. This contract addresses one of the more challenging operations of NASA's Mars Sample Return mission - the guidance of an Orbiting Sample (OS) into the capture mechanism on a Mars Orbiter/Earth Return Vehicle.

Starting with Aurora and MIT's existing testbed based on the Synchronized Position Hold Engage Reorient Experimental Satellites (SPHERES) and Mars Orbit Sample Retrieval (MOSR), the Aurora/MIT team will demonstrate automated visual tracking of the OS, emulate the vehicle dynamics of both the chaser spacecraft and OS using the SPHERES satellites, and modify the shell of the SPHERES satellites to more closely reflect the OS geometry. Initially, the team will demonstrate these features in two-dimensions using a flat-floor facility. Eventually, however, this system can augment the existing SPHERES test facility on the International Space Station (ISS) and demonstrate these capabilities in microgravity, without the comparatively high cost and risk involved in a dedicated satellite launch.

These capabilities will extend the MOSR testbed from the "last meter" problem to the "last several meters" problem - understanding the significant, time-critical maneuvers necessary to position the OS into the capture mechanism of a chaser spacecraft.

About Aurora Flight Sciences

Aurora Flight Sciences designs and builds robotic aircraft and other advanced aerospace vehicles for scientific and military applications. Aurora is headquartered in Manassas, VA and operates production plants in Bridgeport, WV and Columbus, MS and a Research and Development Center in Cambridge, MA. To view recent press releases and more about Aurora please visit our web site at www.aurora.aero.

#####