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## Mike Loucks Designs Trajectory and helps guide NASA's LADEE Spacecraft to Lunar Orbit

Oct. 23, 2013 -- Mike Loucks, owner of Space Exploration Engineering Corporation (SEE), designed and helped implement the trajectory that was used by NASA's Lunar Atmosphere and Dust Environment Explorer (LADEE) to get from launch on Sep. 6, to lunar commissioning orbit on Oct. 13.

Loucks designed the trans-lunar and lunar orbit capture portion of LADEE's trajectory. He was on-site at the NASA/Ames control center from launch on Sept 6, through the final Lunar Orbit Insertion (LOI) maneuver on Oct. 13 and served as the trajectory lead and a member of the flight dynamics team during that time.

Loucks also designed trajectories for the Interstellar Boundary Explorer (IBEX) mission which launched in 2008, and the Orbview-II spacecraft which launched in 1997.

The progress of the LADEE spacecraft along the trajectory was chronicled by Loucks and fellow "astrogator" John Carrico during the trans-lunar portion of the mission on the "Astrogator's Guild" blog (<u>www.astrogatorsguild.com</u>).

Loucks and Carrico were featured in an article in the Christian Science Monitor from October 8, 2013. The article, "Moon mission LADEE arrives after an 'amazingly precise' looping flight", was written by Liz Fuller-Wright and appeared in the on-line version of the publication.

## http://www.csmonitor.com/Science/2013/1008/Moon-mission-LADEE-arrives-after-an-amazingly-precise-looping-flight-video

LADEE (pronounced like "laddie") is a robotic mission designed to orbit the Moon to gather detailed information about the lunar atmosphere, conditions near the surface and environmental influences on lunar dust. LADEE also carries an innovative Lunar Laser Communication Demonstration (LLCD) instrument, which is designed to transmit data at a rate of 622 megabits per second (Mbps), about five times the current state-of-the-art from lunar distances. LADEE is managed by NASA's Ames Research Center in Mountain View, California.

After the commissioning phase of the mission, which lasts for one month, LADEE will be lowered to its science orbit with an average altitude below 50 km (31 miles). LADEE will spend 3 months at this lower altitude, and then will be directed to lunar impact after it runs out of fuel.

The SEE Corporation was founded in 1995 in Boulder, CO. Loucks moved the company and his family to Friday Harbor in 2001.