



AIAA Houston Section History Technical Committee Lunch & Learn

The American Institute of Aeronautics and Astronautics

A Tale of Two Translunar Aborts

Date: Monday, February 26, 2024

Time: 11:30 AM to 1:00 PM

Place: Online only (Zoom only): Please use this link: <https://us02web.zoom.us/j/83558603375>

Cost: Free, Membership Not Required

Speaker: Daniel R. Adamo, Astrodynamics Consultant and AIAA Distinguished Speaker

The recent Peregrine robotic lunar landing abort due to a leaking oxidizer tank was an off-Earth navigator's nightmare. Overboard vent accelerations were literally all over the sky before attitude control was restored, and an uncontrolled lunar impact was impending before a more responsible disposal strategy was implemented. These dramatic events recall still higher stakes in play after Apollo 13's onboard explosion aborted its lunar landing attempt in 1970. New insights regarding post-explosion vent accelerations threatening safe Apollo 13 return to Earth will be discussed.

Daniel R. Adamo is an astrodynamics consultant focused on space mission trajectory design, operations, and architecture. He works with clients primarily at NASA and in academia.

Until retirement in 2008, Mr. Adamo was employed by United Space Alliance as a trajectory expert, serving as a "front room" flight controller for 60 Space Shuttle missions. Along with console duties during simulations and missions, this job entailed development of trajectory designs, software tools, flight rules, console procedures, and operations concepts. Mr. Adamo began his career at the Perkin-Elmer Corporation where he developed and operated proof-of-concept software for computer-controlled polishing of optical elements. He has degrees in Physical Sciences and Optical Engineering from the University of Houston and the University of Rochester, respectively.

