



# Aerospace Control and Guidance Systems Committee Short Course

## NASA's First Hypersonic Research Aircraft: *The X-15's Lessons for GN&C, Safety, and Systems Engineering* Lecturer: Dr. Jeb Orr, Mclaurin Aerospace

**Date:** 25 October 2022

**Time:** 8:30 AM - 4:00 PM

**Location:** The Antlers, A Windham Hotel  
4 S. Cascade Avenue  
Colorado Springs, CO 80903  
(719) 955-5600



**Cost \*:** \$275.00

- Lecture fee includes lecture notes, continental breakfast and lunch

**How to Register:** [www.acgsc.org](http://www.acgsc.org) for registration links

(If you have trouble registering or for any questions please email [secretary@acgsc.org](mailto:secretary@acgsc.org))

**Registration Deadline:** October 4, 2022

### Synopsis:

This lecture focuses on the Lessons-Learned from an in-depth retrospective analysis of the X-15 test program and fatal crash. The lessons in safety culture, guidance & control, systems engineering, programmatics and testing remain current and applicable across aerospace applications, as well as the emerging field of hypersonics.

The first segment will introduce the aircraft, mission profiles, systems and GN&C, while the second segment provides in-depth analysis with the lessons from the 1967 accident that aerospace professionals can apply to avoid pitfalls of the past in systems of the future.

### Instructor Background:

**Dr. Jeb S. Orr** is a Principal Staff Engineer at Mclaurin Aerospace, where he performs analysis and design of flight control systems for launch vehicles and spacecraft. Dr. Orr serves as the Space Launch System (SLS) Flight Control Technical Specialist at NASA Marshall Space Flight Center. He holds a BSE in Computer Engineering and an MSE and PhD in Control from the University of Alabama in Huntsville. He is an instrument-rated private pilot with more than 1200 flight hours in 10 types of aircraft.

In 2014, Dr. Orr served as the technical lead for an independent assessment of the 1967 X-15 accident by the NASA Engineering and Safety Center (NESC).