



American Institute of  
Aeronautics and Astronautics  
Dayton-Cincinnati Section

**Lunch 'n' Learn**

***HIFiRE-1***

***Hypersonic Flight Test***

*Guest Speaker:*

***Dr. Roger Kimmel***

***Air Force Research Laboratory***

***Friday 1 June 2012***



The Hypersonic International Flight Research Experimentation (HIFiRE) program is a hypersonic flight test program executed by the Air Force Research Laboratory (AFRL) and the Australian Defence Science and Technology Organization (DSTO). Its purpose is to develop and validate technologies critical to next generation hypersonic aerospace systems. The primary experiment on HIFiRE flight 1 was boundary layer transition (BLT). BLT has important impacts on hypersonic vehicle aerodynamics and aerothermodynamics. It is an inherently challenging phenomenon to compute or ground test. Flight provides the ultimate benchmark for transition prediction. HIFiRE-1 successfully demonstrated affordable, high-quality hypersonic flight testing for BLT. This seminar will discuss why we need flight tests, how we acquired data on HIFiRE-1, and some of our major findings on BLT and other phenomena.

Dr. Kimmel is a Principal Engineer at the Air Force Air Vehicles Directorate, and served at the Principal Investigator for HIFiRE flight 1.

**Time:** 11:45 am

**Location:**

*China Garden Buffet*  
*112 Woodman Dr.*  
*Dayton, OH 45431*

**Lunch:**

*You will be able to*  
*purchase the buffet*

