



# AIAA

## American Institute of Aeronautics and Astronautics Dayton-Cincinnati Section

### Lunch 'n' Learn *History of Aerospace Fuels* **Guest Speaker:** ***Dr. Tim Edwards*** **Friday, 11 April 2014**



C-5 wing tank

The Wright Brothers flew their first flight on “several cans of Standard Oil motor gasoline from a nearby boatyard.” Current aviation fuel use is about 75 billion gallons per year worldwide – definitely not obtained from nearby boatyards. Aviation operates worldwide on essentially the same fuel specification – a rare commodity. How did that fuel evolve, and into what? That is the subject of this presentation. Fuel is essentially the lifeblood of a modern aircraft, often used as a coolant and working fluid, as well as a source of energy. Why is jet fuel a hydrocarbon – and will it remain that way? What about batteries/hybrids? Why are people proposing to make jet fuel out of everything from algae to municipal solid waste? All these questions and more will be discussed.

Dr Tim Edwards is a Chemical Engineer and AFRL Fellow working in the Fuels Branch in the Air Force Research Laboratory’s Aerospace Systems Directorate/Turbine Engine Division. He has 30+ years of experience in research in fuels and propellants, working at both of the Directorate’s propulsion research sites at Edwards AFB (no relation) and Wright-Patterson AFB. His interests include properties and performance of hydrocarbon fuels/propellants for advanced propulsion applications. Recently he has become involved in the evaluation of alternative (non-petroleum) fuels for the DOD, taking him back to his grad school PhD work at the University of California/Berkeley on coal liquefaction. Many a weekend he could be found grinding and processing coal, while masses of hippies danced nearby to the Grateful Dead – but that is another story.

#### **Time**

11:45 AM

#### **Location**

China Garden Buffet  
112 Woodman Dr.  
Dayton, OH 45431

#### **Lunch**

You will be able to  
purchase the buffet

