



# AIAA

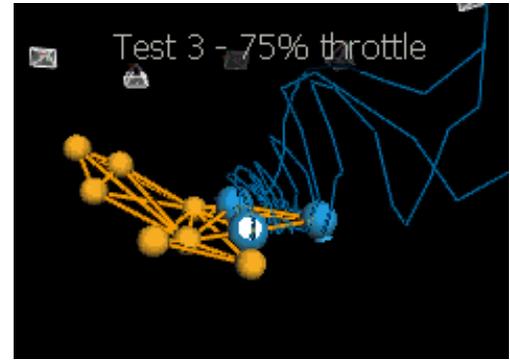
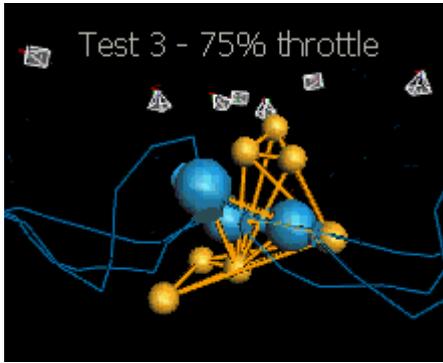
## American Institute of Aeronautics and Astronautics Dayton-Cincinnati Section

### Lunch 'n' Learn

#### *Characterization of Bio-Inspired Micro Air Vehicle Dynamics*

**Guest Speaker:**  
**Dr. Phil Beran**

**Friday**  
**23 Jan 2015**



Dr. Philip Beran will present a history of work performed on Micro Air Vehicles (MAVs) within AFRL. MAVs have captured the interest of students, professionals, and hobbyists for many years. MAV activities internationally have been very strong. In particular, a NATO Task Group was formed in 2008 to study the flight characteristics of MAVs propelled by flapping. The technical activities of this NATO team are reviewed, including: motion-capture study of two-wing (University of Arizona) and four-wing (Technical University of Delft) flappers, and system-level modeling of the two-wing configuration. While MAV research at AFRL has been curtailed, this review may be of value to the broader community and provides the opportunity to look back at AFRL accomplishments related to this international collaboration.

Dr. Phil Beran is a Principal Research Aerospace Engineer in the Multidisciplinary Science and Technology Center of the Air Force Research Laboratory, and serves as the Technical Advisor for the Design and Analysis Branch and Lead for the Analysis Methods for Prototypes Team. He received his PhD in Aeronautics from Caltech in 1989 and his BS in Engineering Physics from Cornell University. Dr. Beran has a wide range of interests in computational physics and computational design including sensitivity analysis, reduced order modeling, uncertainty quantification, multi-fidelity and multidisciplinary analysis, and aircraft design. He is the chair of the NATO Applied Vehicle Technology Task Group "Characterization of Bio-Inspired Micro Air Vehicle Dynamics."

#### **Time**

11:45 AM

#### **Location**

China Garden Buffet  
112 Woodman Dr.  
Dayton, OH 45431

#### **Lunch**

You will be able to purchase the buffet

