



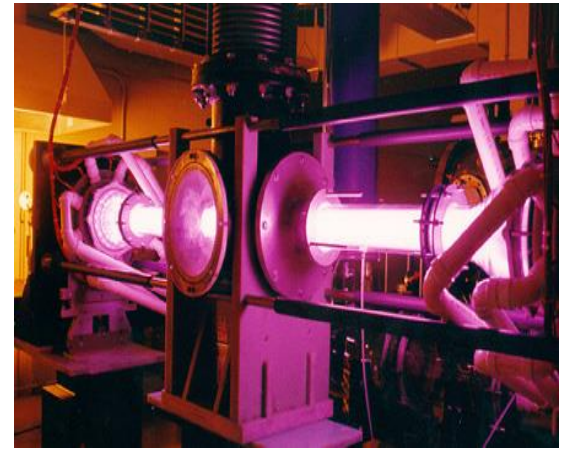
AIAA

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

**Lunch 'n' Learn
September 27, 2019**

**“Thermal Simulation Using High Energy
Lasers”**

**Guest Speaker:
Dr. Thomas Robbins, AFRL**



Abstract: Simulation of relevant application conditions is essential to understanding the performance of materials in the flight. Lasers allow rapid heating to high temperature and the simulation of a broad range of thermal environments, making them an attractive option for thermal simulation and material testing. Discussion will center on Wright Patterson’s laser testing facility and testing capabilities there, including the flow and environmental simulations that can be done simultaneously. Differences in testing approaches for radiant (i.e. laser) and convective heating approaches will be explained as well as the advantages and disadvantages of a laser heat source for materials evaluation and materials performance model development.

Biography: Dr. Thomas Robbins is a Thermal Engineer in the Air Force Research Laboratory’s Photonics Branch. He obtained a bachelor’s and master’s degree in mechanical engineering from University of Dayton and a PhD in mechanical engineering from the Georgia Institute of Technology. There he helps plan and conduct tests and process test results with numerous DOD, industry, and academic partners. He has previously conducted research on sustainable thermal systems, heat driven refrigeration and filtration systems, and materials characterization.

Time: 11:45 am

Location:

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

Lunch:

*You will be able to
purchase the buffet*

