

# DEPARTMENT OF MECHANICAL ENGINEERING

## WILLIAM MAXWELL REED SEMINAR SERIES

### “Dragonfly Aerothermal Analysis and Instrumentation”

Aaron Brandis, Ph.D.  
NASA

**Abstract:** The aerothermal calculations used for TPS sizing of Dragonfly’s entry and descent into Titan’s atmosphere will be discussed along with general information about the Dragonfly mission. Furthermore, as an Engineering Science Investigation (ESI) is a requirement for New Frontiers missions, details of the aerosciences instrumentation (known as DrEAM) which will take measurements of heat flux, pressure and in-depth TPS temperature during atmospheric entry will be provided.

**Bio:** Dr. Brandis is a senior research scientist employed by AMA Inc. in the Aerothermodynamics branch at NASA Ames. He is the PI for NASA’s Entry Systems Modeling project, Dragonfly aerothermal lead and atmospheric entry instrumentation PI. His research focuses on shock layer radiation with the NEQAIR code and EAST shock tube facility.

**Date:** Friday, Mar. 6<sup>th</sup>  
**Place:** CB 106

**Time:** 3PM  
**Contact:** Dr. Alexandre Martin 257-4462

Meet the speaker and have refreshments  
Attendance open to all interested persons