UTSA The University of Texas at San Antonio™

DATE:
December 17, 2019

TIME:
12:00-2:00pm
Pizza for Lunch

LOCATION:
FLN 2.01.20

NASA MIRO CAMEE

CENTER FOR ADVANCED MEASUREMENTS IN EXTREME ENVIRONMENTS

PRESENTS:

UTSA Hypersonics Lab, Department of Mechanical Engineering

UTSA's NASA MIRO Center for Advanced Measurements in Extreme Environment (CAMEE) features a monthly seminar series where the Center faculty, students, and collaborators provide an overview of ongoing Center Research activities. The second NASA-CAMEE seminar in this series will be presented by Dr. Christopher Combs' research group where Center students focus primarily on hypersonic (typically Mach number greater than 5) fluid flows and the development of optical and laser-based measurement techniques. The aim of this research thrust is to further the understanding of complex fluid phenomena in the hypersonic flow regime through the use of non-intrusive experimental diagnostics. In this seminar, graduate research assistants Eugene Hoffman and Ian Bashor will discuss UTSA's high-speed experimental capabilities and review tools available for non-intrusive measurements.

With the continued national push to develop hypersonic capabilities under various atmospheric conditions, understanding the fundamental physics of hypersonic flight and potential adverse impacts to vehicles in this regime is essential to the design of future high-speed flight systems. To address this need, UTSA is currently completing construction of a Mach 7 Ludwieg Tube Wind Tunnel to investigate basic physical phenomena associated with hypersonic fluid flow. The test section of the wind tunnel has been developed to accommodate flow visualization and diagnostic techniques such as Shadowgraphy and Schlieren Imaging, Particle Image Velocimetry (PIV), Mie and Rayleigh Scattering, Laser Induced Florescence (LIF), and Infrared Imaging. The speakers will also discuss the motivation for research into the stated aerodynamic thrusts of the Center, including shock-wave/boundary-layer interactions, surface roughness, and jet-in-crossflow interactions.

More details of Comb's Research: http://engineering.utsa.edu/ccombs/

Phone:
(210) 458-4455
Fax:
(210) 458-4469
Email: camee@utsa.edu
Website:
www.utsa.edu/NASA-CAMEE/