



The University of Texas at San Antonio™

DATE:
November 15, 2019

TIME:
2:00-3:00pm

LOCATION:
BSE 3.106



NASA MIRO CAMEE

CENTER FOR ADVANCED MEASUREMENTS IN EXTREME ENVIRONMENTS

PRESENTS:

Laboratory of Turbulence, Sensing and Intelligence System, Department of Mechanical Engineering, UTSA

NASA MIRO Center for Advanced Measurements in Extreme Environment (CAMEE) features a monthly seminar series where the Center faculty, students and collaborators will give an overview of ongoing Center research activities. The inaugural NASA-CAMEE seminar will be presented by Dr. Kiran Bhaganagar's group of Laboratory of Turbulence, Sensing and Intelligence Systems. Dr. Bhaganagar's group focus is to develop high-fidelity meso-micro scale coupled turbulence models in atmosphere, sea-ice and oceans to study turbulence phenomena in extreme events; and to develop state of the art data-fusion algorithms that integrate the sensing data across different spatial and temporal scales. In this talk, Dr. Bhaganagar's student Sudheer BhimiReddy, NASA CAMEE Ph.D. candidate, will discuss the dynamics of buoyant plume released into the atmosphere .

Turbulent Buoyant plumes are ubiquitous in the environment and occur both naturally and also due to man-made causes, including wind-fires, volcanic eruptions, oceanic density currents. Geophysical based Turbulent buoyant plumes occur at very high Reynolds numbers, generally, in the order of 10^4 - 10^9 and cause significant entrainment of the ambience into the plume resulting in substantial mixing. A numerical and mathematical framework that is being formulated to understand and predict the large-scales plumes will be discussed in this talk. A high-fidelity Weather Research Forecasting (WRF)- Large-Eddy-Simulation (LES) coupled model has been developed for this purpose.

More details of Dr. Bhaganagar's Research: <https://kiranmalibu.wixsite.com/kb1utsa>

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