PRINCIPLE INVESTIGATORS

Dr. Christopher Combs (UTSA): Aerodynamics & Compressible Flows

Dr. Alan Whittington (UTSA): Petrology, Planetary Geology, Volcanology

Dr. Stephen Ackley (UTSA): Antarctic Sea Ice

Dr. Alberto Mestas-Nunez (UTSA): Physical Oceanography & Remote Sensing

Dr. Daniel Pineda (UTSA): Chemical propulsion & Spectroscopy

Dr. John Cassano (CU-Boulder): Meteorology & Climate

Dr. Marilyn Raphael (UCLA): Climate & Global Climate Modeling



CONNECT WITH US

Instagram: @UTSACAMEE

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YouTube: UTSA CAMEE

Email: CAMEE@UTSA.EDU





Center for Advanced Measurements in Extreme Environments

www.utsa.edu/nasa-camee/



HISTORY: The NASA MIRO Center for Advanced Measurements in Extreme Environments (CAMEE) at The University of Texas at San Antonio was established in 2019 to support NASA's Science, Aeronautics, and Space Technology Mission Directorates, with the vision of building a sustainable source of diverse, highly trained researchers to enter the Nation's workforce in NASA fields of earth system sciences, remote sensing and imaging technologies, computational fluid dynamics and data analytics, and experimental fluid mechanics.

VISION: To build a sustainable source of diverse, highly trained researchers to enter the Nation's workforce in NASA fields, who are innovative thinkers and with the state-of-art skills in advanced measurement techniques of extreme conditions over Earth and planetary surfaces for pursuing discoveries and new knowledge.

MISSION: To recruit, educate, and mentor a diverse group of undergraduate and graduate interdisciplinary students to become leaders in the areas of Geosciences and Space Sciences. Turbulence simulations and Highspeed Aerodynamics. CAMEE will train students in fields that include Measurements in extreme conditions over the Earth, Exploration of Planetary Surfaces, Turbulence Simulations & big data at extreme scales, and diagnostic techniques in experimental high speed & reacting flows in support of NASA's Science, Aeronautics, and Space Technology Mission Directorates.

RESEARCH

High-Speed Compressible Aerodynamic & Reacting Flow

Exascale Turbulence Simulations & Reacting Flow

Exploration of Planetary Surfaces

Atmospheric & Oceanic Systems

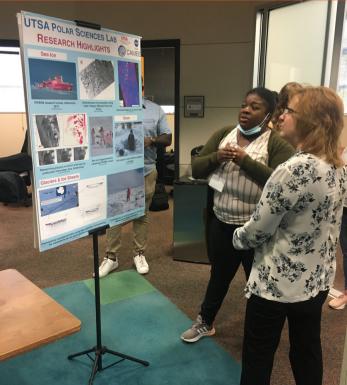
Snow & Ice in Earth & Planetary Systems

PARTICIPATING IN CAMEE

1. Ph.D. & Undergraduate Research Opportunities

2. K-12 Teachers & student workshops

3. Industry/academic/research collaborations in the areas of high-speed aerodynamics, Big-Data & Turbulemce models, extreme events related to Geosciences, Unmanned aerial/ground systems &



CAPABILITIES





(Mach-7 Hypersonic Wind Tunnel)

(Autonomous 3-D printed low-cost Mars Rover





Unmanned aerial/ground vehicle for sensing

Experimental & field rheology

In-house high-performance

turbulence simulation tools



Sea Explorer Autonomous Glider





High Enthalpy shock tube