

## VISION

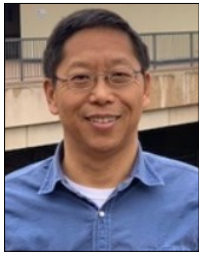
To build a sustainable source of diverse, highly trained researchers to enter the Nation’s workforce in NASA fields of earth system sciences, remote sensing and imaging technologies, computational fluid dynamics and data analytics, and experimental fluid mechanics.

The MIRO Center is in support of NASA’s Science, Aeronautics, and Space Technology Mission Directorates and is partnering with UCLA, CU Boulder, Alamo Colleges District, and 3 NASA Centers (GSFS, JPL, and LaRC), and others.

### NASA MIRO Center for Advanced Measurements in Extreme Environments

#### Exploring Collaboration Opportunities

#### Core Management Team:



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**NASA MIRO CAMEE**  
*Funded by the National Aeronautics and Space Administration*



# CAMEE

# RESEARCH FOCUS AREAS

## Aerodynamics

Center students will learn to use a battery of optical diagnostic techniques to provide validation-quality data on these experiments. Opportunities for students to implement these non-intrusive optical measurements into the polar sea ice and atmospheric science field experiments will be explored.

## Atmospheric Science

Center students will utilize unmanned aircraft and instrumented meteorological tower data from previous and ongoing/planned field experiments in the Antarctic and Arctic to understand atmospheric coupling to polar ice sheets, oceans, and sea ice.

## Modeling

Center students will (1) develop state of the art data-fusion algorithms that integrate the sensing data across different spatial and temporal scales; (2) develop atmospheric, oceanic, and sea-ice models with real-time input from sensors; and (3) learn how to combine high-performance computing, cloud computing, and measurement technology.

## Ocean Science

Center students will use remote sensing and glider observations to better understand oceanographic processes in the Gulf of Mexico. Center students will be trained on applications of remote sensing to study the variability of atmosphere-ocean fluxes in high latitudes both on free and ice covered regions.

## Polar Science

Center students will be trained in using altimetry data (CryoSat-2 and ICESat-2) for studying sea ice thickness and examining sea ice volume in connection with current unprecedented changes in Arctic and Antarctic sea ice. Center students will also be involved in research enable comprehensive assessment of surface melting of glaciers, ice sheets, and ice shelves based on remote sensing and modeling

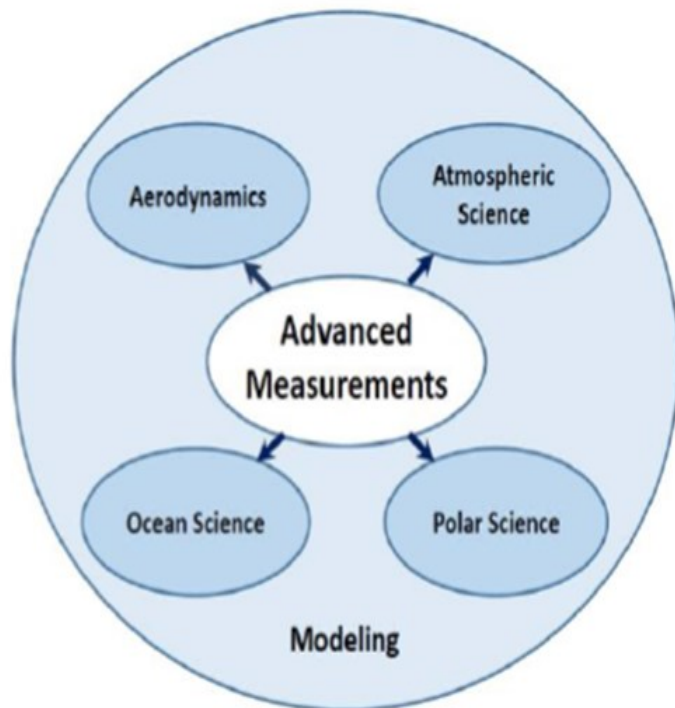
## UTSA Academic Programs Supported

**Undergraduate:** Geology, Environmental Science, Mechanical Engineering, Multidisciplinary Studies-Geoinformatics Track

**Master's:** Geology, Geoinformatics, Mechanical Engineering, Environmental Science

**Doctoral:** Environmental Science and Engineering, Mechanical Engineering

**Certificate in Geographic Information System:** Undergraduate/Graduate



## UTSA and San Antonio

The University of Texas at San Antonio is one of the fastest growing higher education institutions in Texas and the third largest of nine academic universities and six health institutions in the UT System. As a multicultural institution of access and excellence, UTSA aims to be a national research university providing access to educational excellence and preparing citizen leaders for the global environment.

UTSA serves over 34,000 students in more than 158 degree programs in the colleges of Architecture, Construction and Planning; Business; Education and Human Development; Engineering; Liberal and Fine Arts; Public Policy; and Sciences; as well as the Honors College and the Graduate School. Founded in 1969, UTSA is an intellectual and creative resource center and a socioeconomic development catalyst for Texas and beyond.

San Antonio is located in Central South Texas at the foot of the beautiful Hill Country. The weather is excellent for most of the year and one can enjoy many outdoor activities and visit world-renowned attractions such as the historic Alamo and beautiful River Walk.

## NASA MIRO CAMEE

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