



The University of Texas at San Antonio™

**DATE:**  
Friday,  
January 28, 2022

**TIME:**  
12:00pm-1:30pm CST

**LOCATION:**  
Zoom: 921 8560 9255



# NASA MIRO CAMEE

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## PRESENTS:

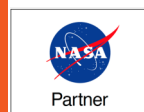
**David Chambers, Southwest Research Institute**

**Title:** *Deep Learning and Differentiable Physics*

## Abstract:

In this seminar, I will share insights into the factors that have driven the deep learning revolution and talk about some exciting new developments that promise to bridge modern artificial intelligence with a myriad of other fields, such as optimal control theory and computational fluid dynamics. Through the application of algorithmic differentiation to physics-based forward modeling, recent advancements have offered performance improvements of 100x-1000x over previous methods for solving inverse problems. In addition to an overview of recent work, I will provide a small set of examples in different domains and discuss future challenges.

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