



The University of Texas at San Antonio™

**DATE:**  
**Friday,**  
**January 29, 2021**

**TIME:**  
**12:30-1:30pm CDT**

**LOCATION:**  
**via Zoom (Click**  
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# NASA MIRO CAMEE

**CENTER FOR ADVANCED MEASUREMENTS IN EXTREME ENVIRONMENTS**

## PRESENTS:

**Dr. Don Perovich** is a Professor in the Thayer School of Engineering at Dartmouth College. He also is currently a co-leader of the sea ice team for the MOSAiC field campaign (the largest sea ice experiment ever undertaken) and a member of CAMEE’s External Advisory Committee.

**Title: MOSAiC: Observing and Understanding the New Arctic Ocean**

## Abstract:

The Arctic sea ice cover is in decline, with decreases in ice extent, ice thickness, and ice age. This ice cover plays a critical role in the global climate system, acting as both an indicator and an amplifier of climate change. It is imperative that we observe and understand the ongoing changes in Arctic sea ice. The Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAiC) program is designed to examine the causes and consequences of a diminished sea ice cover. MOSAiC is taking an interdisciplinary approach, examining interactions between the atmosphere, ice, ocean, ecosystem, and biogeochemistry. It is using models to inform the observational strategy and then using observational results to improve models. Surface-based, aerial, and satellite measurements were made on scales from sub-millimeter to tens of kilometers. An overview of the MOSAiC program will be presented along with results from measurements of albedo and mass balance.

More details of Dr. Perovich’s Research: <https://engineering.dartmouth.edu/community/faculty/donald-perovich>

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## MOSAiC: Observing and Understanding the New Arctic Ocean

Don Perovich

Thayer School of Engineering, Dartmouth College

The Arctic sea ice cover is in decline, with decreases in ice extent, ice thickness, and ice age. This ice cover plays a critical role in the global climate system, acting as both an indicator and an amplifier of climate change. It is imperative that we observe and understand the ongoing changes in Arctic sea ice. The Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAiC) program is designed to examine the causes and consequences of a diminished sea ice cover. MOSAiC is taking an interdisciplinary approach, examining interactions between the atmosphere, ice, ocean, ecosystem, and biogeochemistry. It is using models to inform the observational strategy and then using observational results to improve models. Surface-based, aerial, and satellite measurements were made on scales from sub-millimeter to tens of kilometers. An overview of the MOSAiC program will be presented along with results from measurements of albedo and mass balance.

Dr. Don Perovich is a Professor in the Thayer School of Engineering at Dartmouth College. The central goal of his research is deceptively simple to state: understand the interaction of solar radiation with sea ice. This simple statement belies the rich complexity of the topic. The interaction of solar radiation with sea ice is intimately interrelated with sea ice optical properties, thermodynamics, physical properties, sea ice ecology, and radiative transfer theory. A central element of his research is assessing the role of the sea ice albedo feedback in the Arctic climate system. He is currently a co-leader of the sea ice team for the MOSAiC field campaign, the largest sea ice experiment ever undertaken. He is a Fellow of the American Geophysical Union and a recipient of the Department of Army Meritorious Civilian Service Award in 1999 and 2017.

