EOL Seminar

Learning to Fly - An Overview of Recent University of Colorado Field Campaigns Leveraging Robotic Aircraft for Atmospheric Observing

Gijs de Boer

University of Colorado Boulder

Date: Tuesday, November 5th, 2024, 3:30 pm – 4:30 pm (MT)
FL2-1022
Link: https://operations.ucar.edu/live-eol

ABSTRACT

Have you ever dreamed you can fly? For atmospheric scientists, the possibility offers endless opportunity to see things in a new light. Taking detailed, high-resolution measurements of quantities that govern physical and chemical drivers of weather and climate, particularly in areas that were otherwise challenging or dangerous to evaluate, is something that I started dreaming about in graduate school. After transitioning to the University of Colorado Boulder in 2011, I engaged colleagues in the engineering sciences to make this dream a reality, working to develop innovative robotic observing systems to collect detailed measurements of the lower atmosphere and underlying surface. Over the last decade, this work has taken me across the globe to observe a range of exciting phenomena, including work to study cloud and lower atmospheric processes in the Arctic, air-sea exchange in the tropics and its role in supporting the lifecycle of trade cumulus, mountain hydrology, coastal processes and their impacts on air quality, and other lower-atmospheric phenomena. In this seminar, I will offer insight into recent studies that have involved University of Colorado uncrewed aircraft systems (UAS), some scientific outcomes resulting from these deployments, and the student and public engagement opportunities that these systems have helped to support. I will additionally provide some thoughts on the next frontiers in observing the atmosphere and Earth system with small UAS, and highlight opportunities for engagement and collaboration.

If you have any questions, please contact Sarah Woods (sfwoods@ucar.edu).