Postdoctoral Research Associate – UAS Tornado Near-ground Wind Field Analysis

Position Description

The Cooperative Institute for Severe and High-Impact Weather Research and Operations (CIWRO) is seeking a Postdoctoral Research Associate to work in the Storm Processes Analysis, Research, and Knowledge (SPARK) team at the NOAA National Severe Storms Laboratory (NSSL) in Norman, Oklahoma (https://www.ou.edu/nwc). This role provides an exciting opportunity to lead and participate in cutting-edge research designed to investigate near-ground characteristics of tornadoes and their attendant wind fields. The primary duties of the position will be to lead research efforts analyzing output from Large Eddy Simulations (LES) models and observations collected on VORTEX-related field campaigns from diverse sources such as UAS, satellites, and ground surveys to elucidate processes related to tornadoes and their attendant wind fields. The incumbent will be expected to participate in future VORTEX-related field campaigns.

Overview

In collaboration with NSSL research scientists and engineers, CIWRO scientists have been working to collect and analyze data from various Verifications of the Origins of Rotation in Tornadoes EXperiment (VORTEX) related field campaigns such as PERiLS and LIFT. Over the past 5 years, field data collection has emphasized the retrieval of in-situ observations at the lowest levels of the atmosphere and near the ground through the use of various research platforms such as UAS. These data span a wide array of environments including pre-tornadic, actively tornadic, and post-event surveys and are therefore ideally suited for investigating storm-scale processes that influence near-ground tornado wind fields and the associated societal impacts.

Key Responsibilities

- Lead efforts to use imagery from UAS and satellites, ground surveys, and output from LES models, in concert with observations collected from field campaigns, WSR-88Ds, and mobile mesonets, to better understand and estimate near-ground tornadic wind fields.
- Lead and provide regular summaries of work accomplished through presentations, peer-reviewed publications, and contributions to reports, as needed.
- Lead efforts to develop and improve methods of analyzing UAS imagery, such as AI/ML, to generate new insights into storm-scale processes and tornadic near-ground wind fields.
- Collaborate with CIWRO and NSSL scientists on the design of UAS data collection strategies for future field campaigns.
- Attend meetings and professional conferences to present research results and interact with collaborators.

Qualifications

- Ph.D. in Meteorology, Atmospheric Science, or related area.

- Demonstrated expertise in one or more areas: UAS, convective meteorology, radar meteorology, radar data processes and variables, observational analysis, and numerical modeling.
- Excellent oral and written communication skills.
- Ability to work independently and collaboratively and communicate effectively in a team environment.

Desired Attributes

- Experience with scientific programming in UNIX/Linux systems using high-level programming languages such as Python, Matlab, C++, etc. is desired but not required.
- Previous experience working with large datasets.
- Previous experience processing UAS datasets for scientific research.

Benefits and Work–Life Balance

Joining our team comes with numerous benefits, including:

- Competitive salary based on experience and comprehensive university benefits (http://hr.ou.edu/).
- Generous paid leave, encompassing 14 paid holidays and 22 hours of accrued paid time off per month.
- Reduced membership at the University of Oklahoma's state-of-the-art fitness and aquatic center (https://www.ou.edu/far).

More details about working at the University of Oklahoma, benefits packages, as well as living in Norman, Oklahoma are provided on our website: https://jobs.ou.edu/Discover-OU.

We are dedicated to promoting a healthy work–life balance by championing a flexible work culture, offering adaptable work hours and a hybrid work arrangement. This framework enables team members to navigate personal commitments while effectively contributing to their professional responsibilities.

How to Apply

Applications should be emailed to ciwro-careers@ou.edu, Attn: Near-Ground, and include:

- A cover letter highlighting your interest in the position and describing how you meet the position qualifications,
- The names and contact information for three references
- Your résumé/CV

Applications will be accepted until the position is filled. The starting date is negotiable.
The University of Oklahoma is an Equal Opportunity/Affirmative Action employer.