CIWRO Post-Doctoral Research Associate – TRACER-CUBIC project

The Cooperative Institute for Severe and High-Impact Weather Research and Operations (CIWRO, formerly CIMMS) at The University of Oklahoma is currently seeking a Postdoctoral Research Associate position for a project funded by the Department of Energy (DOE) in support of the TRacking Aerosol Convection interactions ExpeRiment (TRACER). The project focuses on Coastal Urban Boundary-layer Interactions with Convection (CUBIC). The Postdoctoral Research Associate will participate in and analyze data from boundary-layer profiling instruments deployed during TRACER-CUBIC. They will also conduct, analyze, and improve numerical model simulations with the NOAA National Severe Storms Laboratory (NSSL) Warn-on-Forecast (WoF) prediction system. The position is based at CIWRO in Norman, Oklahoma within the National Weather Center.

Background:
CIWRO, NSSL, the School of Meteorology at the University of Oklahoma, and the broader research community at the National Weather Center (NWC) have long collaborated on pioneering research on mesoscale and boundary layer meteorology and severe storms and their impacts. The Boundary Layer Integrated Sensing and Simulation (BLISS) group at NWC is an example of this collaboration, and acts as an umbrella under which those with research interests in boundary layer meteorology can come together and collaborate. The DOE TRACER-CUBIC study is a collaborative project between scientists from OU's School of Meteorology, the University of Wisconsin in Madison, and NOAA NSSL. The project provides funding to deploy three boundary-layer profiling systems in the Houston metro area during the Intensive Observation Period (IOP) of TRACER (June 1-Sept. 30, 2022). The three systems will be deployed along a transect perpendicular to the shoreline to investigate the evolution of the sea-breeze circulation and boundary-layer as it develops over and interacts with the Houston metro area. The observations will be supplemented by numerical experiments with the NSSL WoF system. Our goals are to improve understanding and representation of boundary-layer and convection processes in Earth system models through the integrated analysis of novel observations and numerical data sets. The Postdoctoral Research Associate will participate in and analyze data from boundary-layer profiling instruments deployed during TRACER-CUBIC. They will also conduct, analyze, and improve numerical model simulations with the NOAA NSSL Warn-on-Forecast (WoF) prediction system. An ideal candidate will also take on some mentoring responsibilities of graduate research assistants who are members of the project team.

The duties of this position are:

1. Participate in the collection of data during the TRACER IOP
2. Process data collected by the boundary-layer profiling systems using existing and newly developed analysis software
3. Coordinate the setup of the WoF ensemble for CUBIC with the project team
4. Conduct sensitivity tests with different urban-canopy models
5. Conduct scientific analysis of TRACER– CUBIC observations and numerical model output
6. Explore collaborations with other research teams and labs (e.g., NCAR, NOAA, universities)

7. Write papers for the refereed literature, and present the results of findings at national and international meetings.

The minimum qualifications for this position are:

- A Ph.D. in atmospheric science or related area
- Background in boundary-layer meteorology
- Strong programming/scripting (e.g., Python) skills
- Excellent oral and written communication skills (including papers published in or submitted to refereed journals)
- An ability to work both independently and cooperatively with others

Applicants should identify expertise within any of the following areas: observations and numerical models in analysis; urban circulations; sea breeze circulations; operating boundary-layer profilers; numerical weather forecast ensembles; mesoscale modeling; meteorological observation data set analysis; meteorological observation platforms; field deployments; ensemble data analysis; convection initiation; large eddy simulation

The beginning salary will be based on qualifications and experience, with benefits provided through the University of Oklahoma (https://hr.ou.edu/Employees). Normal working hours will be routinely observed with some occasional irregular hours during active field deployments. The position is funded for two years and the preferred start date is January 2022.

To apply for the position, please forward your resume, cover letter and list of three references to:

CIWRO Careers
University of Oklahoma CIWRO
120 David L. Boren Blvd., Suite 2100
Norman, OK 73072-7304
ciwro-careers@ou.edu
JOB REFERENCE: CUBIC Postdoc

The University of Oklahoma is an equal opportunity/Affirmative Action employer.

The University of Oklahoma has a mandatory COVID-19 vaccine requirement, with exceptions only for approved medical or religious accommodations. As a condition of employment, newly hired employees must provide proof of vaccination or initiate the accommodations process before their first day of employment.