

University of Oklahoma Post-Doctoral Research Associate

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) is currently seeking a Post-Doctoral Research Associate to work on a project funded by the U.S. Department of Energy Atmospheric Radiation Measurement program. The appointee will work at the National Weather Center, a unique confederation of federal and university organizations that is the world's leading center for severe weather and related research.

Background:

The U.S. Department of Energy Atmospheric Radiation Measurement (ARM) program has deployed operational Raman lidars, which measure profiles of water vapor, temperature, and aerosol, and Doppler lidars, which measure profiles of wind speed, direction, and vertical velocity, at its research sites. These lidars operate at high temporal and vertical resolution, and have collected many years of data that spans across different seasons and atmospheric conditions.

Turbulence is an important process that redistributes energy, momentum, particulates, and trace gases in the atmosphere. It operates across a range of temporal and spatial scales, and must be represented in numerical weather prediction, cloud-resolving, and general circulation models. Since turbulence is a chaotic process, it is difficult and computationally expensive to model directly, so it is usually parameterized using relationships between variables that are represented in the numerical models and the statistical properties of the turbulent atmosphere.

We seek to find a post-doctoral candidate that will mine the large ARM lidar dataset to compute profiles of variance, skewness, and other moments from the water vapor, vertical wind, and temperature profile observations, and relate these profiles to large-scale variables that are predicted by numerical models (e.g. gradients in water vapor and temperature, wind speed and shear, etc.)

Desired Qualifications:

1. A Ph.D. degree (or be in the final stages of dissertation completion before applying) in atmospheric sciences, physics or related fields with applicable research interests.
2. Experience in programming languages such as IDL, MatLab or Python with familiarity with UNIX/LINUX systems.
3. Research experience and/or education in turbulence observations or modeling.
4. Experience with lidar data analysis.
5. Applicants should demonstrate the ability to both work independently and collaborate with others in a group setting. Good oral and written communication skills (including papers published in or submitted to refereed journals) are needed for the position.

The beginning salary will be \$52,000 per year with University of Oklahoma benefits. Information on benefits may be found at <http://hr.ou.edu/Employees/New-Employees-at-OU/OU-Benefits-Overview>.

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

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Job Reference – DoE PostDoc

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