HOWARD UNIVERSITY

Position Description

Position Title: Assistant Research Scientist	**Position Number:** TBD
Department: NCAS-M	**Revision Date:** 6/23/2023
Reports To: Dr. Sen Chiao	**EEO Job Code:** Enter Text
Salary Grade: Enter Text	**FLSA Status:** Exempt/NonExempt
Bargaining Unit: Enter Text	**Grant:** ☐ No ☒Yes

JOB PURPOSE:

The NOAA Center in Atmospheric Sciences & Meteorology (NCAS-M) is seeking an Assistant Research Scientist to examine the issues of numerical truncation and dissipation to determine the fidelity with which turbulent statistics can be predicted in dynamical modeling. The assistant research scientist will use observations of the connective mixed layer taken from DOE Atmospheric Radiation Measurement (ARM) and NCAS-M field campaigns as a baseline with which to compare numerical predictions. The assistant research scientist will work independently and collaboratively under the direction of the NCAS-M and NOAA Global Systems Laboratory (GSL) and will participate in research with scholars at the NOAA GSL and NCAS-M. The position will be located at Howard University, but the postdoc is expected to spend time at GSL.

SUPERVISORY AUTHORITY:

This position does not have supervisory responsibilities. However, the position is accountable for the day-to-day research activities.

NATURE AND SCOPE:

Internal contacts are with faculty, staff, and students. External contacts are with representatives of the NOAA Global Systems Laboratory (GSL) and other NOAA researchers.

PRINCIPAL ACCOUNTABILITIES:

- Construct a GeoFLOW forcing model based on observations that will be used to evaluate the minimal model required to predict observed statistical fluctuations in the mixed layer.
- Emulate the methods used in fixed-order codes like the NOAA Unified Forecast System (UFS) Finite Volume Cubed-Sphere (FV3) Dynamical Core or the NCAR Model for Prediction Across Scales (MPAS).
- Examine the effects of moisture on the statistical fluctuations of the convective mixed layer without terrain.

- Attend meetings and professional conferences to present research results and interact with collaborators and users; assist in the preparation of publications to describe results when appropriate.
- Assist with managing research projects (e.g., research design, IRB approval, data collection, data analysis), and research products (e.g., writing, presentations)
- Contributes to the overall development of the NCAS-M modeling program and participates in the mentorship of graduate research assistants
- Performs complex statistical analyses which includes selecting appropriate analysis procedures, setting up data for analysis, judging the validity and reliability of data, designing, and writing programs to perform the analyses, and producing written reports on the result of the analysis
- Publish peer-reviewed scientific papers and present results at national/international conferences.
- Assists faculty researchers, or may act independently, in the planning and designing of research projects, establishing priorities, and recommending schedules, timetables, and costs
- Collaborate on additional research projects within the atmospheric science research group at Howard University and across the broader scientific community.

CORE COMPETENCIES:

- Experience with numerical models (e.g., WRF, E3SM, CESM, MPAS, UFS, MERRA) with proficiency in scientific programming languages (e.g., Fortran, Python, C++, etc.) for modeling and model output analysis

- Knowledge of and experience with atmospheric, urban scale land atmosphere interactions, clouds and water cycle is essential.

MINIMUM REQUIREMENTS:

- PhD received within the last 3 years in atmospheric sciences or a closely related field

- Demonstration of organizational skills with the ability to work effectively in teams is essential

- Additionally, working independently to produce reports and publish research results in peer-reviewed journals is required.

SIGNATURES REQUIRED:

APPROVED: _____   **DATE**: _____

        Department Manager/Supervisor

CERTIFIED: _____   **DATE**: _____

        Compensation Department