CIMMS Warn-on-Forecast Scientific Programmer

The Cooperative Institute for Mesoscale Meteorological Studies (CIMMS) at The University of Oklahoma (OU) seeks to fill a Scientific Programmer position to support the National Oceanic and Atmospheric Administration (NOAA) National Severe Storms Laboratory’s (NSSL) Warn-on-Forecast (WoF) research and development program. This position is located in Norman, Oklahoma.

Background:
The WoF program is developing a regional, convective-scale numerical weather prediction (NWP) model-based ensemble data assimilation and prediction system with the goal to increase warning lead times of hazardous weather events. A successful candidate for this position will help develop an experimental WoF system within NOAA’s Unified Forecast umbrella, which will use the stand-alone-regional (SAR) Finite Volume Cubed Sphere (FV3) dynamical core and the Joint Effort for Data Assimilation Integration (JEDI) system. The incumbent will develop new code and/or optimize existing SAR-FV3 and JEDI code for WoF application. This position requires an individual with a strong interest in software development, model building, and a desire to aid in the construction of a software infrastructure that will eventually be used for both research and operations within NOAA and academia. While a candidate will need to be self-directed, he/she will work closely with members of NSSL’s WoF team, scientists and developers from a wide variety of research and operational organizations (e.g., NOAA’s Environmental Modeling Center, other OAR laboratories, and our academic partners) to accomplish the primary job responsibilities listed below. The research and operational working environment here at NSSL within the National Weather Center in Norman, OK will provide the candidate with ample opportunities for career advancement.

Primary Job Responsibilities:
1) Code optimization, development and testing of SAR FV3 model for high-resolution ensemble modeling (e.g., WoF system).
2) Code optimization, development and testing of NSSL’s WoF system using the new JEDI software and the SAR FV3.
3) Development of workflow systems that can be used by the research community for running the SAR FV3 – JEDI WoF system
4) Research and establish the computational requirements for operational implementation of WoF system with our partners at NOAA’s Environmental Modeling Center.

Desired Qualifications:
- A MS degree in Meteorology, Computer Science, Atmospheric Science, Software Engineering, or closely related field with at least 5 years of professional experience OR PhD in one of those areas with at least 2 years of experience as a scientific programmer and researcher.
- Strong computer programming skills with particular emphasis on Fortran, C/C++, Object Oriented Programming and modern scripting languages (Python, NCL, Shell scripting)
- Experience with running NWP models (e.g., FV3, MPAS, WRF-ARW, HWRF) and modifying code within the models.
- Experience with running ensemble data assimilation software (e.g., NOAA’s GSI EnKF, NCAR’s DART system).
- Experience with version control software, especially Git.
- Experience with using cloud computing platforms for HPC or related applications.
- Ability to work and communicate effectively in diverse team environments.

The salary will be based on qualifications and experience with benefits provided through the University of Oklahoma (https://hr.ou.edu/). The start date for the position is negotiable.

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

Tracy Reinke  
Executive Director, Finance and Operations  
University of Oklahoma CIMMS  
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Norman, OK 73072-7304  
treinke@ou.edu  
ATTN: WoF Scientific Programmer

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