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 or higher rank, with expertise in distributed hydrologic modeling, radar hydrometeorology, computer science, or a related field to collaborate with the National Severe Storms Laboratory (NSSL) of the National Oceanic and Atmospheric Administration and the Hydrometeorology and Remote Sensing Laboratory at OU. 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 candidate will assist in the research, development, and testing of a coupled and parallelized hazard modeling framework called NFL (NMQ-FLASH-LANDSLIDE), linking radar-based precipitation estimates and forecasts to an ensemble of distributed hydrologic models and a landslide prediction system. The NFL system will be demonstrated in real-time with the eventual goal of transitioning it for operational decision-making in the US. The Post-Doctoral Research Associate will work with an interdisciplinary team on research related to enhancing this system as follows:

1. Assist in the design and implementation of an ensemble distributed hydrologic modeling framework to encompass several different representations of snowmelt, hydrologic water balance, channel routing, etc., in a modular manner.
2. Perform research to evaluate and improve the skill of the model simulations using observational databases of flooding.
3. Parallelize and optimize the modeling framework so that it can be run in an operational environment at a grid cell resolution commensurate with the radar-based rainfall forcing (presently 1 km/2 min).

Desired Qualifications:

1. A Ph.D. degree (or be in the final stages of dissertation completion before applying) in civil engineering, hydrology, hydrometeorology, computer science or related fields with applicable research interests.
2. Research interests and experience in distributed hydrologic modeling, ensemble forecasting, data assimilation, parallelization, and/or numerical methods in environmental modeling.
3. Research experience and/or education in the design and development of large-scale, real-time software systems.
4. Experience working with C/C++, OpenMP, and OpenMPI in a Linux/Unix/OS X environment.
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 range will be $50,000-$60,000 per year (depending on qualifications) with University of Oklahoma benefits. Information on benefits may be found at http://hr.ou.edu//employment/WorkingatOU.asp. The position will be available January 2014.

This position is a full-time, fixed term appointment and is funded by a partnership between NOAA and the University of Oklahoma through CIMMS. The appointee will serve a customary probationary period during the first year, after which the appointment would be extended for at least one additional year subject to satisfactory performance and the continued funding availability.

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

Tracy Reinke  
Executive Director, Finance and Operations  
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Job Reference – NFL Post Doc

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