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**Postdoctoral Scholar or Project Scientist at the University of California, Irvine**

**Investigating global cloud-aerosol interactions in the world's first climate model to include explicit embedded boundary layer turbulence.**

Prof. Mike Pritchard
University of California, Irvine, CA
http://sites.uci.edu/pritchard

*For NSF-funded research collaborative with:*
Prof. Chris Bretherton and Dr. Peter Blossey
University of Washington, Seattle, WA

I am looking for an ambitious postdoctoral research associate or project scientist interested in using a new refined-resolution variant of cloud superparameterization (i.e. "ultraparameterization"; see Parishani et al., *JAMES*, 2017,2018) to investigate the physics of global cloud response to aerosol loading and surface warming.

The term of appointment is for one year, and renewable for up to two more years, subject to satisfactory progress. Start dates are flexible but I am eager to hire soon. A strong foundational background in atmospheric science is required, with expertise in cloud physics, and especially aerosol-cloud interactions. Well-qualified candidates will have familiarity with the boundary layer turbulent eddy interactions that mediate stratocumulus cloud-top entrainment and transitions between various organized forms of shallow convection, and associated multi-scale climate dynamics. Computational fluency in large-eddy simulation technology such as the Weather Research and Forecasting model or the System for Atmospheric Modeling is a desired skill for this position; in its stead, a strong background in boundary layer processes and other modeling background may also suffice. Further fluency in global atmospheric simulation technology such as the Community Earth System Model is helpful. Responsibilities will include designing, running and analyzing numerical experiments, unraveling process-level mysteries, and leading hypothesis-driven publications. Synergistic interest in penetrating computational frontiers to enable richer forms of explicit turbulence, by testing the limits of national high-performance computing, is appreciated, with training opportunities available.

The postdoctoral scholar or project scientist will be expected to work closely with me, Prof. Mike Pritchard, within the Department of Earth System Science at UC, Irvine, with additional mentorship and close collaboration with Prof. Chris Bretherton and Dr. Peter Blossey at the University of Washington; this project is an NSF-funded multi-institutional collaboration across UCI/UW. Other opportunities are available to collaborate with our group members who are exploring machine learning emulation of subgrid cloud physics, and with the Department of Energy's exascale computing project, in which cloud superparameterization has recently been ported to run on the world's most powerful supercomputer (fueled by GPUs).

The Earth System Science Department at UC Irvine is a highly interdisciplinary environment comprising ~ 25 faculty with expertise across many components of the Earth System, including atmospheric physics, land surface processes, climate dynamics, terrestrial and marine biogeochemical cycles, ice sheets, and human systems. The University of California is known for offering competitive retirement savings, health and family benefits, and has a strong institutional commitment to inclusive excellence and diversity.

Please submit electronically as a single PDF: (1) a brief cover letter, (2) a curriculum vitae, (3) and the names of three references. Applications can be sent directly to Mike Pritchard at mspritch@uci.edu. Thanks!