

## **Postdoctoral Research Position at LANL**

### **Antarctic Ocean-ice sheet interactions**

Job description: Los Alamos National Laboratory (LANL) is a research institution engaged in a wide range of scientific activities, including climate science, space exploration, geophysics, renewable energy, supercomputing, medicine, and nuclear physics. The Climate, Ocean, Sea-ice and Ice-sheet Modeling (COSIM) group consists of a vibrant group of scientists working on the development of advanced ocean and ice models, and on the performance and scientific analysis of a number of fully-coupled global Earth System simulations. COSIM members collaborate closely with the LANL's Center for Nonlinear Studies (CNLS), which includes a dynamic community of postdocs focused on complex nonlinear problems.

The COSIM group seeks a postdoctoral researcher to study uncertainties in future sea level rise (SLR) due to the impact of changing oceanographic and atmospheric conditions on the Antarctic ice sheet evolution. This position will be funded partly by CNLS. The primary tools used in this project will be the Regional Ocean Modeling System (ROMS) for modeling the Southern Ocean with sub-ice-shelf cavities, and the Community Ice Sheet Model (CISM) for modeling the Antarctic Ice Sheet. Different oceanographic conditions will be created by running ROMS with multi-model (CMIP5) derived ocean fields at the open boundaries, and with different atmospheric forcing. The ocean model results in terms of temperature, salinity and/or ice-sheet basal melt rates will then be used to force CISM and derive possible scenarios of SLR. The candidate will work with LANL staff members to develop an ensemble simulation approach to quantify uncertainties in future Antarctic SLR.

The ideal candidate will have a background in physical oceanography, an interest in ocean-ice interaction processes and uncertainty quantification, and strong computational skills. Any candidate with a strong background in a similar discipline (such as climate science, atmospheric science, physics), an interest in physical oceanography and a willingness to work in an interdisciplinary team will be given serious consideration.

Minimum job requirements: Doctorate degree in physical oceanography, climate science, atmospheric science, physics, or similar field. Interest in physical oceanography. Good computational skills; excellent analysis capability. Ability to effectively communicate results in presentations and peer-reviewed publications. Ability to work in an interdisciplinary team setting.

Desired skills: Interest in ocean-ice interaction processes and climate uncertainty quantification. Previous experience with running ROMS, CISM, or similar models.

Education: PhD in relevant field completed within the past five years, or soon to be completed.

Notes to applicants: In addition to applying on-line at <<http://www.lanl.gov/careers/career-options/jobs/index.php>> (Job #IRC52934), interested candidates should send a curriculum vitae, digitized copies of transcripts, names and contact information of three references, and a cover letter detailing qualifications and research interests to Milena Veneziani ([milena@lanl.gov](mailto:milena@lanl.gov)<<mailto:milena@lanl.gov>>) and Nathan Urban ([nurban@lanl.gov](mailto:nurban@lanl.gov)<<mailto:nurban@lanl.gov>>). Review of applications will begin immediately and continue until December 15, 2016.

Pre-Employment Drug Test: The Laboratory requires successful applicants to complete a pre-employment drug test and maintains a substance abuse policy that includes random drug testing. Exceptional candidates may be considered for a Director's Fellowship and outstanding candidates may be considered for the prestigious Marie Curie, Richard P. Feynman, J. Robert Oppenheimer, or Frederick Reines Fellowships.

For general information to the Postdoc Program go to <<http://www.lanl.gov/careers/career-options/postdoctoral-research/index.php>>.