Postdoctoral research positions for the advancement of computational physics, computational science and model analyses of grand-challenge simulations of the Earth System.

Overview: Los Alamos National Laboratory is a multidisciplinary research institution engaged in science and engineering on behalf of national security. The two-year postdoc positions is within the Climate, Ocean and Sea-Ice Modeling (COSIM) Team of the Theoretical Division and Computational and Computer Science Division. COSIM develops advanced multi-scale ocean, ice models for the study of Earth system processes and climate change.

Detailed Description: The COSIM group seeks multiple postdocs to work on a broad range of climate science activities in computational physics, computational science, high-performance computing, advanced programming models, and analyses of coupled system dynamics. In terms of computational physics, we seek research proposals for the development of advanced algorithms to improve the fidelity, performance and portability of global ocean, sea-ice and land-ice models with a focus toward high-resolution, grand-challenge scale configurations. We also seek expertise and research proposals related to profiling and optimization of climate system models on DOE leadership class computing facilities. Proposals that develop and implement new programming paradigms to efficiently use emerging, exa-scale, heterogeneous computing architectures are encouraged. With respect to simulation analyses we encourage research proposals that lead to improved description and understanding of high-resolution ocean, sea-ice, land-ice and/or coupled system dynamics with a focus toward data assimilation, predictability, in-situ data processing and visualization. The MPAS-Ocean, -Sea-Ice and -Land-Ice are components of the newly developed U.S. Department of Energy climate model, the Accelerated Climate Model for Energy (ACME<http://climatemodeling.science.energy.gov/projects/accelerated-climate-modeling-energy>). A particular focus of ACME is fully-coupled, global, high-resolution simulations of the Earth system. Within this broad activity, the focus of Los Alamos National Laboratory is the role of ocean mesoscale eddies in the climate system, the role of the ocean and ice systems in the carbon cycle and the role of the ocean and ice systems in sea-level rise.

Desired Skills: The successful candidate will have experience and knowledge of computational physics and/or climate modeling; experience in coupled climate model analysis, especially related to global climate; experience in construction and application of ocean, sea-ice and/or land-ice models; expertise in current or emerging computer programming in languages compatible with high-performance computing (e.g., Fortran90, C, C++, Legion, Kokkos); expertise in shell scripting and/or data-analysis languages (e.g., Python, Matlab, R). She/he will have also demonstrated scientific excellence as evidenced by submission and publication of

authored publications in refereed journals, the ability to create or improve numerical models, and the ability to analyze and interpret climate model simulation data. The ability to work in a highly collaborative team setting is also a requirement.

Education: A Ph.D. in geophysics, fluid dynamics, solid mechanics, climate modeling, computational science, physics, applied mathematics, engineering, or a closely related field.

Note to Applicant: Send a curriculum vitae, digitized copies of transcripts, names of three references, and a one-page cover letter detailing qualifications and research interests to Todd Ringler at ringler@lanl.gov<mailto:ringler@lanl.gov>. Please include "2017 ESM Postdoc Search" in the email subject line. Applications will be reviewed as received. We expect to fill up to 5 postdoc positions in 2017 across the broad range of disciplines highlighted above.

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.

Candidates may be considered for a Director's Fellowship and outstanding candidates may be considered for the prestigious Marie Curie, Richard P. Feynman, or J. Robert Oppenheimer. For general information related to the Postdoc Program, salary and benefits go to: http://www.lanl.gov/careers/career-options/postdoctoral-research/index.php.

Equal Opportunity: Los Alamos National Laboratory is an equal opportunity employer and supports a diverse and inclusive workforce. We welcome and encourage applications from the broadest possible range of qualified candidates. The Laboratory is also committed to making our workplace accessible to individuals with disabilities and will provide reasonable accommodations, upon request, for individuals to participate in the application and hiring process. To request such an accommodation, please send an email to applyhelp@lanl.gov<mailto:applyhelp@lanl.gov> or call 1-505-665-5627<tel:(505)%20665-5627>.

Formal applications should be made through the LANL website. To apply, go to http://www.lanl.gov/careers/career-options/jobs/all-jobs.php and search for job no. IRC 54814.