Earth and Environmental Sciences Division

Job Title: **Computational Earth Scientist**
Atmospheric Phenomenology (Scientist 3/4)
Location: **Los Alamos, NM, US**
Organization Name: **EES-16/Computational Earth Science**
Job ID: **IRC18512**

Department Description:
Located in northern New Mexico, Los Alamos National Laboratory (LANL) is a multidisciplinary research institution engaged in strategic science on behalf of national security. LANL enhances national security by ensuring the safety and reliability of the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction, and solving problems related to energy, environment, infrastructure, health, and global security concerns.

The mission of the Earth and Environmental Sciences (EES) Division of Los Alamos National Laboratory is to solve complex problems of importance in environment, energy, and national security by using our capabilities in earth and environmental sciences. The division is a highly interactive, well-funded research organization with an annual budget of approximately $100 million and a staff of approximately 240. The core disciplines of EES Division include Geology, Geochemistry, Geophysics, Geomaterials, Geography, Hydrology, Atmospheric Science, Ecology, Environmental Science, Computational Science and Geotechnical Engineering. The disciplines are organized into groups within the division, which consist of 30-40 Scientists, with approximately 20 support staff, post-docs, and students. Each group has a variety of scientific programs, on the order of $20-$25M in direct funding. The members of each group are organized into 3 or 4 teams, led by team leaders who support the Group Leader directly.

This job posting is for the Computational Earth Science Group (EES-16). EES-16 performs research and develops capabilities for computing solutions to address challenges in clean energy development, environmental management, nuclear waste disposal, resource allocation and impacts, climate impacts, wildfire and urban firestorms, and atmospheric weapons phenomenology. The Group is characterized by a balance of basic and applied research, which leads to the development of novel and integrated capabilities that are then utilized to address practical problems for sponsors in multiple offices in DOE, other federal agencies, and a variety of industries.

EES-16 is looking for a creative, mid-career scientist to join our interdisciplinary team to take a leadership role in design and application of numerical models characterizing complex atmospheric phenomena at a wide range of length scales. The successful candidate will develop and apply models for coupled-atmosphere systems models to investigate fundamental phenomenology and application-oriented questions. The successful candidate will lead projects supported by teams of scientists and staff and will interact regularly with sponsors to understand their goals. The

candidate is expected to publish in peer-reviewed journals and present at national conferences. The successful candidate will join the dynamic and interdisciplinary Atmospheric Modeling and Weapon Phenomenology team working on projects related to analysis and simulation of phenomena including regional climate, wildfire behavior, wind energy, ecosystem/atmosphere interaction, planetary boundary layer dynamics, plume dynamics and dispersion. Our projects often center around coupled interaction between ambient atmosphere and disturbances with multi-scale feedbacks. High-performance computing is a foundation of our team's simulation science; our team interfaces with other teams that focus on observation and experimentation.

Detailed Description:

This position will be filled at either the Scientist 3 or 4 level, depending on the skills of the selected candidate. Additional job responsibilities (outlined below) will be assigned if the candidate is hired at the higher level.

Scientist 3 ($83,100 - $142,500)
The duties for the Scientist 3 include:

- Contributes to the leadership of projects in terms of overall direction and specific approaches to solving problems.
- Leading and contributing to peer-reviewed publications.
- Solving an extensive and diverse range of complex problems that require the frequent use of creativity.
- Representing the Laboratory to external agencies in limited and defined capacities.
- Contribute to the identification, promotion, and development of new technical capabilities within the Laboratory.
- Participate in new program-development opportunities as directed and contribute towards the formation of new cutting-edge proposals.
- Some travel may be required.

Scientist 4 ($101,400 - $171,000)
The duties for the Scientist 4 include:

- All job functions of a Scientist 3.
- Originating and leading the development of new initiatives.
- Providing technical direction to multiple teams for Laboratory-wide initiatives and/or new technology product line strategies.
- Serving as an authority in technical decision-making and direction at an institutional level.
- Perform as the principle investigator of the multi-disciplinary projects or programs.
- Lead technical decision-making at major project level.
- Make decisions and/or recommendations that guide the successful completion of major programs.
- May provide direction to assigned staff.

Job Requirements:

Minimum Job Requirements:

- An extensive background in computational fluid dynamics (CFD).
- A demonstrated record of directing and completing theoretical or applied CFD projects and ability to apply those skills to atmospheric problems.
- Demonstrated talent for leading interdisciplinary teams of scientists and technicians.
- Strong oral and written communications skills, including a demonstrated record of peer-reviewed publications.
- Experience in the development of numerical models applied to atmospheric phenomena and/or high performance computing.
- The ability to develop innovative advanced concepts, theories, methods, techniques and approaches to address specialized problems.
- Ability to influence industry standards and procedures and guide their application to projects and programs.
- The ability to serve as the primary author of technical products such as journal papers, reports, presentations, and concept papers intended for complex-wide/national audiences.

Additional Job Requirements for Scientist 4:
In addition to the Job Requirements outlined above, qualification at the Scientist 4 level requires:

- Demonstrated ability to initiate, develop and implement moderate to large high-risk projects centered on new scientific ideas or solution methodologies.
- Prior experience leading the development of scope, schedule, and budget and define deliverables at project or program level.
- Experience managing moderate to large, complex and/or high-risk projects, involving multiple tasks, capabilities, and organizations.
- Demonstrated record of successful external collaborations, complex interactions, special assignments and/or active participation in professional societies.
- Prior experience organizing internal/external working groups, meetings, and colloquia.
- The ability to have upward influence on large project strategies and directions.

Desired Skills:

- National and/or international scientific reputation.
- Experience working with a variety of sponsors and collaborators.

Education:
Typical educational requirement is an advanced degree in science from an accredited college or university. Ph.D. preferred, M.S with extensive experience acceptable, in Atmospheric Science, Applied mathematics,Computational Sciences, or Engineering and at least 5 years professional experience with strong component of leadership.

Notes to Applicants:
LANL offers an excellent working environment and competitive compensation and benefits package. For further information, see http://www.lanl.gov/careers; job IRC18512. EES Division employs over 200 people, including many postdoctoral associates and graduate students, with expertise in various facets of earth science. EES fosters a family-friendly working environment. Additional information about this position and the Subsurface Flow and Transport team can be obtained by contacting Carl Gable (gable@lanl.gov, (505) 665-3533).

Additional Details:

Clearance: Q (Position will be cleared to this level). Applicants selected will be subject to a Federal background investigation and must meet eligibility requirements* for access to classified matter.

*Eligibility requirements: To obtain a clearance, an individual must be at least 18 years of age; U.S. citizenship is required except in very limited circumstances. See DOE Order 472.2 for additional information

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.

Regular position: Term status Laboratory employees applying for regular-status positions are converted to a regular status only with approval of the cognizant Principal Associate Director.

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 or call 1-505-665-5627.