Description

Job Title **Optical Sensing Scientist 1/2**
Location **03-2322-2402-OFF**
Organization Name **ISR-2/Space & Remote Sensing**

What You Will Do

This position will be filled at either the Scientist 1/Scientist 2 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.

The Space and Remote Sensing Group (ISR-2) at Los Alamos National Laboratory is seeking qualified scientists to participate in the execution of our portfolio of optical sensing programs. These programs include: ground based sky surveillance; ultra low-light imaging including advanced photon counting detectors; space situational awareness; a wide range of astrophysics studies focusing on explosive transient phenomena such as gamma-ray bursts and supernovae; development, deployment, and operation of novel optical sensors and robotic instrumentation. Each of the program topics intersects with one or more of the following focus areas:

- Design of innovative optical sensors and instruments using both improved concepts based on demonstrated principles and the development of new detection principles
- Development and field deployment of complete autonomous hardware/software systems for sky surveillance, space situational awareness, and other applications
- Development of algorithms and techniques for optical imaging and time-series data, removal of the instrumental signatures, signal detection and characterization, and high-level statistical inference in data intensive settings
- The design, execution, and analysis of broad area searches in large collections of static and streaming data coupled with autonomous follow-up of interesting targets
- Source-to-sensor modeling, including modeling of source physics, signal propagation, sensor performance, and the validation of the data processing and analysis algorithms
- Astro-dynamical modeling and prediction, including initial orbit determination, orbit propagation, and simulation of observing geometry
- Scientific and statistical analysis of data coupled with theoretical modeling and understanding the underlying emission and propagation physics

What You Need

Minimum Job Requirements:

Scientist 1 (Salary range $76,800 - $125,000):

- Demonstrated knowledge and experience with conducting basic and/or applied scientific research that is relevant to one or more of the above programs and focus areas
- Some combination of experience with applied mathematics, scientific data analysis, and the practical use of numerical algorithms (imaging, time-series, spectral, etc.)
- Some experience with scientific computing and demonstrable knowledge of one or more scientific programming languages (especially Python and C/C++)
- Demonstrated ability to interact effectively in a team environment
- Demonstrated ability to express ideas clearly in written and oral communications including a history of contributing to scientific reports or papers in peer reviewed science journals
- Ability to obtain and maintain a DOE Q clearance (generally requires U.S. citizenship)

Additional Job Requirements for Scientist 2 (Salary range $84,300 - $139,000)

In addition to the Job Requirements outlined above, qualification at the Scientist 2 level requires:

- Significant experience with scientific computing and proficiency in one or more scientific programming languages (especially Python and C/C++)
- A record of technical accomplishment and excellence in research in one or more subfields demonstrated for example by publications in peer reviewed scientific journals, invited talks, and citation record

Desired Skills:

- Familiarity with observational astronomy and astrophysics
- Knowledge of astro-dynamics, modern space flight, navigation, and orbit calculations
- Familiarity with modern data science: machine learning, SQL databases, computer networking
- Experience with acquisition and management of large data sets
- Experience with instrument response characterization, calibration, and optimization
- Experience with image and/or time-series processing and analysis
- Active DOE/Q Clearance

Education:

Scientist 1: Master's degree in physics, astronomy, computer science, electrical engineering or a related field, or Bachelor's degree with equivalent work experience
Scientist 2: Graduate degree (PhD or Master's in physics, astronomy, computer science, electrical engineering or a related field) followed by professional scientific work experience (e.g. postdoctoral research)

Notes to Applicants: In addition to a resume, candidates must submit a cover letter addressing the specific job requirements. Applications without this letter will not be considered.

Where You Will Work

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.

ISR-2 develops and applies remote sensing capabilities (RF, infrared, and optical) to support global security and conduct scientific research in related fields. The Group maintains multi-disciplinary programs in theory, modeling, instrumentation, experimentation, field deployment, data analysis and data exploitation.

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.

New-Employment Drug Test: The Laboratory requires successful applicants to complete a new-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 regular status.

Equal Opportunity:
Los Alamos National Laboratory is an equal opportunity employer and supports a diverse and inclusive workforce. All employment practices are based on qualification and merit, without regards to race, color, national origin, ancestry, religion, age, sex, gender identity, sexual orientation or preference, marital status or spousal affiliation, physical or mental disability, medical conditions, pregnancy, status as a protected veteran, genetic information, or citizenship within the limits imposed by federal laws and regulations. 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 1-505-665-4444 option 1.

Minimum Salary	
Maximum Salary	
Appointment Type	**Regular** Regular
Posting Scope	**External** External

Contact Details

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