Analytical Chemistry Postdoc in Los Alamos, New Mexico

What You Will Do

The High Explosives Science and Technology group at Los Alamos National Laboratory is seeking a postdoctoral candidate to support energetic material analysis within the group and across the laboratory. The work will involve analyzing materials, developing new methods, carrying out original research and publishing results in peer reviewed journals. The work will also involve working with technical staff across the laboratory to carry out energetic sample analysis. These activities also require supporting the daily operations of the Energetic Materials Analytical Team (sample management, work prioritization, etc).

The successful candidate will become an integral part of energetic materials analysis and characterization in the High Explosives Science and Technology Group. They will become familiar with the various routine analyses that are carried out in support of the Laboratory energetic materials missions and will be expected to be capable of carrying out those analyses independently when required. They will also be expected to develop new and improved methods of analysis based on the current state-of-the-art. This position will require working with technicians and technologists in the group to stand up new capabilities, plan/carry out crossover studies for new instruments, and interface with vendors for instrument installation and service contracts. The candidate will also be expected to interact with technical staff to plan, fund, and execute publishable work. A significant portion of this work has the potential for publications in peer reviewed journals as well as applications in projects with national security missions.

What You Need

Minimum Job Requirements:

- Extensive experience with a broad range of analytical techniques and instrumentation platforms such as Gel Permeation Chromatography, HPLC-MS, GC-MS, thermal analysis, particle size analysis, titrations, FTIR, and/or NMR.
- Experience with instrumentation troubleshooting and repair.
- Various chemical software proficiency.
- Demonstrated communication and language skills, as evidenced by publications and the cover letter.
- Demonstrated skill in independent problem solving.
- Demonstrated ability to publish original work in peer reviewed journals.
- Demonstrated ability to work in a collaborative environment in shared laboratory space.

Desired Skills:
• Excellent basic laboratory and wet-chemistry skills.
• Expertise or familiarity with chromatography techniques, especially HPLC-MS, GC-MS, and GPC.
• Expertise or familiarity with thermal analysis methods such as DSC, TGA, etc.
• Expertise or familiarity with spectroscopic analysis such as FTIR and NMR.
• Ability to interpret spectroscopic data for molecular identification.
• Willingness to handle sensitive high explosive materials in a rigorous safety environment.
• Must be highly self-motivated to drive requirements and projects independently with their own creative ideas in addition to direction from the mentor and other stakeholders.

Education: A Ph.D. in Analytical Chemistry is required. The candidate must have completed all Ph.D. requirements by commencement of the appointment. The candidate must also be within 5 years of completion of the Ph.D.

Notes to Applicant: Interested applicants are required to apply online and upload a cover letter and resume. The cover letter must address candidate experience and how it applies to the opening.

Additional Details:
Position will require a security clearance. Selected candidates will be subject to drug testing and other pre-employment background checks.

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.

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.

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.

Explosive Science and Shock Physics (M) Division is responsible for current and evolving explosive science and shock physics efforts. We support National Security through the invention and application of energetic materials and application of our static and dynamic compression science capability for understanding material response at extreme conditions to address conventional, nuclear, and homeland defense needs. The Division has a diverse portfolio of research, development, and application projects involving the dynamic properties of inert and reactive weapons materials including the physics of shock waves in inert and energetic materials, the molecular synthesis of novel energetic materials, the formulation of EM into engineered materials, the shock initiation and detonation physics of explosives, the response of explosives to various stimuli including electrical, chemical, mechanical, thermal, impact, shock and laser interactions, the development and small-scale application of unique energetic materials, and the diverse application of high-explosive driven pulsed-power (HEPP) systems.

M-7, the High Explosive Science & Technology Group, serves the Laboratory and nation by providing the knowledge base in high explosives (HE) testing for the Nuclear Weapons Program and other national security areas. The group specializes in a broad array of energetic materials science including development (synthesis and formulation) and testing of novel explosives, pilot plant production of explosive materials, advanced manufacturing of explosives, analytical chemistry of explosives and explosives ingredients, homemade explosives research and training, and special security projects.