



## Postdoctoral Appointee in Laser Diagnostics for Heterogeneous Catalysis

Location: Livermore, CA

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### What Your Job Will Be Like

We are seeking a motivated postdoctoral appointee to join a multidisciplinary team of researchers in developing new approaches for studying coupled gas-surface chemistry and transport in catalytic reactions. The focus of the position is the development and application of laser diagnostics that will be coupled with mass spectrometry to probe the fundamental chemical physics of gas-phase systems interacting with reactive solid surfaces.

On any given day, you may be called on to:

- Work as part of a team that includes experts in optical diagnostics and spectroscopy, reacting flows, surface science, catalysis, materials physics, mass spectrometry, and the kinetics and dynamics of chemical reactions
- Conduct independent research under the mentorship of technical staff, and present results at national and international conferences and to publish in high-profile peer-reviewed journals

This postdoc will work on projects that span across two departments, whose work is primarily funded under the DOE Office of Science and addresses fundamental experimental and numerical problems, mostly in the areas of gas phase and gas-surface reaction systems and uncertainty quantification.

Due to the nature of the work, the selected applicant must be able to work onsite at the Sandia Livermore location.

### Qualifications We Require

- PhD in a physical science or engineering
- Experience conducting experimental research in laser diagnostics

### Qualifications We Desire

- A background combining elements of the following: optical diagnostics, reacting flows, catalysis, gas-phase chemistry, surface chemistry, fluid mechanics, molecular spectroscopy and energy transfer, mass spectrometry
- Experience with Raman scattering, LIF, CARS, photoionization mass spectrometry
- Ability to address complex problems creatively and to work effectively both independently and in teams
- Ability to collaborate with other researchers
- Experience with Matlab, Chemkin, and CFD of reacting laminar flows
- Strong interpersonal and analytical skills

## About Our Team

The Gas-Phase Chemical Physics Department is part of Sandia's Combustion Research Facility (CRF) in Livermore, California, where over 100 scientist, engineers, and technologists conduct basic and applied research to improve our nation's ability to use and control energy conversion processes efficiently and cleanly. Under the principal sponsorship of the Department of Energy's Office of Basic Energy Sciences, the Gas-Phase Chemical Physics Department conducts fundamental experimental, theoretical, and modeling research to develop a foundational understanding of the key chemical processes that underlie the complex reactive environments.

## About Sandia

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Sandia National Laboratories is the nation's premier science and engineering lab for national security and technology innovation, with teams of specialists focused on cutting-edge work in a broad array of areas. Some of the main reasons we love our jobs:

- Challenging work with amazing impact that contributes to security, peace, and freedom worldwide
- Extraordinary co-workers
- Some of the best tools, equipment, and research facilities in the world
- Career advancement and enrichment opportunities
- Flexible work arrangements for many positions include 9/80 (work 80 hours every two weeks, with every other Friday off) and 4/10 (work 4 ten-hour days each week) compressed workweeks, part-time work, and telecommuting (a mix of onsite work and working from home)
- Generous vacations, strong medical and other benefits, competitive 401k, learning opportunities, relocation assistance and amenities aimed at creating a solid work/life balance\*

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\*These benefits vary by job classification.

## Security Clearance

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This position does not currently require a Department of Energy (DOE) security clearance.

Sandia will conduct a pre-employment drug test and background review that includes checks of personal references, credit, law enforcement records, and employment/education verifications. Furthermore, employees in New Mexico need to pass a U.S. Air Force background screen for access to Kirtland Air Force Base. Substance abuse or illegal drug use, falsification of information, criminal activity, serious misconduct or other indicators of untrustworthiness can cause access to be denied or terminated, resulting in the inability to perform the duties assigned and subsequent termination of employment.

If hired without a clearance and it subsequently becomes necessary to obtain and maintain one for the position, or you bid on positions that require a clearance, a pre-processing background review may be conducted prior to a required federal background investigation. Applicants for a DOE security clearance need to be U.S. citizens. If you hold more than one citizenship (i.e., of the U.S. and another country), your ability to obtain a security clearance may be impacted.

Members of the workforce (MOWs) hired at Sandia who require uncleared access for greater than 179 days during their employment, are required to go through the Uncleared Personal

Identity Verification (UPIV) process. Access includes physical and/or cyber (logical) access, as well as remote access to any NNSA information technology (IT) systems. UPIV requirements are not applicable to individuals who require a DOE personnel security clearance for the performance of their SNL employment or to foreign nationals. The UPIV process will include the completion of a USAccess Enrollment, SF-85 (Questionnaire for Non-Sensitive Positions) and OF-306 (Declaration of for Federal Employment). An unfavorable UPIV determination will result in immediate retrieval of the SNL issued badge, removal of cyber (logical) access and/or removal from SNL subcontract. All MOWs may appeal the unfavorable UPIV determination to DOE/NNSA immediately. If the appeal is unsuccessful, the MOW may try to go through the UPIV process one year after the decision date.

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## **EEO**

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability, or veteran status and any other protected class under state or federal law.

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## **Position Information**

This postdoctoral position is a temporary position for up to one year, which may be renewed at Sandia's discretion up to five additional years. The PhD must have been conferred within five years prior to employment.

Individuals in postdoctoral positions may bid on regular Sandia positions as internal candidates, and in some cases may be converted to regular career positions during their term if warranted by ongoing operational needs, continuing availability of funds, and satisfactory job performance.

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## **How To Apply**

Visit our careers site to complete your application for Job ID 688938

<https://sandia.jobs/livermore-ca/postdoctoral-appointee-in-laser-diagnostics-for-heterogenous-catalysis/E491988A2EF1429590FB851E7EDEA53E/job/>