CAREERS AT SLAC
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Back to Search Results

SLAC National Accelerator Laboratory is one of 17 Department of Energy (DOE) National Laboratories, and operated by Stanford University on behalf of the DOE. SLAC develops and operates some of the world's premier science facilities, including the first hard X-ray free-electron laser. Research at SLAC explores the structure and function of matter and the properties of energy, space and time, at the smallest and largest scales, all with the goal of solving problems facing society and advancing human knowledge.

Stanford University / SLAC National Accelerator Laboratory

Science and Engineering Associate (Dual Posting)

Job Requisition #:	**2498**
Classification Title:	**Science and Engineering Associate 1**
Grade:	**I**
Location:	**Menlo Park, CA (HQ)**
# of openings:	**1**

Description

POSITION OVERVIEW:

Do you enjoy collaborating with a diverse group of people to solve complex challenges? Does contributing to breakthrough discoveries in science and working with unique experimental instrumentation in a world-leading

scientific research environment excite you? The Photon Controls and Data Systems (PCDS) group at the LCLS is seeking a Science and Engineering Associate to join our team and provide support to the controls and data systems infrastructure for X-ray instrumentation at the Linac Coherent Light Source (LCLS), a science Directorate at SLAC National Accelerator Laboratory.

LCLS is the world's first hard X-ray free electron laser (FEL). LCLS is operated as an international user facility, attracting hundreds of scientists from around the world to conduct first-of-a-kind experiments to study fundamental processes of chemistry, technology, and life itself. A suite of 7 x-ray instruments for exploiting the unique LCLS scientific capabilities has been produced. The various instruments adopt common control and data acquisition systems (DAQ). The PCDS group is responsible for developing and operating the control and DAQ systems for the different LCLS experiments. This is a heterogeneous system comprised of single board computers running RTEMS and clusters of machines running Linux.

Controls include motors, cameras, vacuum, power supplies, and temperature control. DAQ includes x-ray cameras and waveform digitizers. We take care of the complete signal chain from controlling and reading out custom or commercial detectors to real-time online and offline computing. The software framework is EPICS (Experimental Physics and Industrial Controls System) for controls and a custom-built C/C++ platform for the DAQ. The Python scripting language is used extensively to build interfaces to these systems. As a member of the PCD group you will support the controls and data systems for one or more of the instruments. This position reports to the PCDS Instrument Engineer for one or more LCLS instruments.

In addition to core duties, specific duties include the following:

- Become familiar with the details of the x-ray instrument(s) in respect to controls and DAQ, to implement hardware and software changes to adapt the instrument(s) to the changing needs of the different experiments.
- Diagnose and resolve any problems that may arise with the instruments' controls and DAQ systems, or troubleshoot issues at first level and identify tasks requiring expert knowledge of personnel in the controls and data acquisition groups.
- Interact with and assist instrument scientists and users from across the world in running the instruments' controls and DAQ systems.
- Install, troubleshoot, and ensure operation of new hardware-components, instrumentation, and software.
- Order, schedule, coordinate, and supervise the work of technicians and support staff.
- Perform other related activities as directed by the PCDS Instrument Engineer.

Note: If hired at the Science and Engineering Associate 2 level, this position will perform additional technical and leadership responsibilities and support complex scientific and research programs related to area of specialization; analyze data, monitor and oversee experimental process, and design and develop prototypes, specialized equipment, and/or systems.

If interested, please apply via this link:
https://chk.tbe.taleo.net/chk01/ats/careers/requisition.jsp?org=SLAC&cws=1&rid=2498

JOB PURPOSE:

Participate in technical research utilizing and/or developing experimental equipment, devices, specimens, plans, designs, reports, and/or data analysis. May have supervisory responsibilities overseeing technicians and/or support staff.

CORE DUTIES*:

- Support scientific and research programs related to area of specialization; analyze data, monitor and oversee experimental process, and design and develop prototypes, specialized equipment, and/or systems.
- Modify, repair, and troubleshoot complex equipment and experimental systems.
- Prepare and review drawings, material lists, requisitions, job orders, engineering change requests, and other documents associated with development, fabrication, assembly, installations, and testing.
- Coordinate and work on scientific or engineering installations; plan and execute various phases of an

operation, oversee schedule of equipment operations, and supervise routine maintenance.
- Acquire and maintain tools, equipment, and chemicals associated with experimental or engineering projects.
- Maintain documentation related to research studies and protocols, and perform administrative duties related to equipment and systems associated with research or engineering projects, as assigned.
- Liaise between researchers, students, technical staff, scientists, vendors, and other university staff; serve as a resource, providing training and practical guidance.
- Oversee the work of technicians and other staff associated with the group/projects, and provide guidance to technicians, operators, and others working in particular scientific or engineering function area.

** - Other duties may also be assigned*

MINIMUM REQUIREMENTS:

Education & Experience:

Associate degree or certificate of completion in Computer Science, Physics, or a related engineering or related scientific discipline, or three years of equivalent work experience or combination of education and relevant experience. Bachelor's degree preferred.

Knowledge, Skills and Abilities:

- Experience applying scientific and engineering principles and practices to perform technical services and support.
    - Experience in a laboratory or industrial environment working with apparatus such as motors, vacuum-systems, oscilloscopes, power supplies, and (high power) lasers strongly preferred.
    - Experience with data analysis, experimental process, design, and development of prototypes, equipment, and/or systems related to area of specialization.
- Ability to write clear documentation, perform administrative duties, and research protocol maintenance related to research studies and/or scientific/engineering projects.
- Experience with software applications, systems, or programs relevant for the job.
    - Demonstrated programming skills with Python and C or C++, experience with Linux/Unix and shell scripting strongly preferred.
    - Working knowledge of computer networks and experience configuring and troubleshooting network devices strongly preferred.
    - Familiarity with the EPICS framework preferred.
    - Experience with real-time software preferred.
- Ability to interpret and determine validity of data and check own work.
- Ability to communicate, liaise, and work with staff, students, faculty, and outside vendors.
- Ability to effectively supervise and train a diverse work staff.

Note: Applicants will be evaluated for the proper level (Science and Engineering Associate 1 or 2) based on experience and accomplishments.

Certifications and Licenses:

None

SLAC Employee Competencies:

- **Effective Decisions**: Uses job knowledge and solid judgment to make quality decisions in a timely manner.
- **Self-Development**: Pursues a variety of venues and opportunities to continue learning and developing.
- **Dependability**: Can be counted on to deliver results with a sense of personal responsibility for expected outcomes.
- **Initiative:** Pursues work and interactions proactively with optimism, positive energy, and motivation to move

things forward.

- **Adaptability:** Flexes as needed when change occurs, maintains an open outlook while adjusting and accommodating changes.

- **Communication:** Ensures effective information flow to various audiences and creates and delivers clear, appropriate written, spoken, presented messages.

- **Relationships:** Builds relationships to foster trust, collaboration, and a positive climate to achieve common goals.

PHYSICAL REQUIREMENTS*:

- Frequently grasp lightly/fine manipulation, perform desk-based computer tasks, lift/carry/push/pull objects that weigh up to 10 pounds.
- Occasionally stand/walk, sit, twist/bend/stoop/squat, grasp forcefully.
- Rarely kneel/crawl, climb (ladders, scaffolds, or other), reach/work above shoulders, use a telephone, writing by hand, sort/file paperwork or parts, operate foot and/or hand controls, lift/carry/push/pull objects that weigh >40 pounds.

** - Consistent with its obligations under the law, the University will provide reasonable accommodation to any employee with a disability who requires accommodation to perform the essential functions of his or her job.*

WORKING CONDITIONS:

- May be exposed to high voltage electricity, radiation or electromagnetic fields, lasers, noise > 80dB TWA, Allergens/Biohazards/Chemicals /Asbestos, confined spaces, working at heights >10 feet, temperature extremes, heavy metals, unusual work hours or routine overtime and/or inclement weather.
- May require travel.

WORK STANDARDS:

- Interpersonal Skills: Demonstrates the ability to work well with Stanford colleagues and clients and with external organizations.
- Promote Culture of Safety: Demonstrates commitment to personal responsibility and value for safety; communicates safety concerns; uses and promotes safe behaviors based on training and lessons learned.
- Subject to and expected to comply with all applicable University policies and procedures, including but not limited to the personnel policies and other policies found in the University's Administrative Guide, http://adminguide.stanford.edu.

SLAC National Accelerator Laboratory is an Affirmative Action / Equal Opportunity Employer and supports diversity in the workplace. All employment decisions are made without regard to race, color, religion, sex, national origin, age, disability, veteran status, marital or family status, sexual orientation, gender identity, or genetic information. All staff at SLAC National Accelerator Laboratory must be able to demonstrate the legal right to work in the United States. SLAC is an E-Verify employer.

Final candidates are subject to background checks prior to commencement of employment at the SLAC National Accelerator Laboratory.

Internal candidates, who are selected for hire, may require degree verification and/or credit checks based on requirements of the new position.

For Clery Act Information click here: http://www.stanford.edu/group/SUDPS/safety-report/security-authorities.shtml

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New Search

SLAC National Accelerator Laboratory, Menlo Park, CA
Operated by Stanford University for the U.S. Department of Energy Office of Science