

OFFICE OF Human Resources

**Job Title:** Accelerator Directorate - Mechanical Engineering Intern

**Location:** Menlo Park, CA

**Full/Part Time:** Full-Time

**Regular/Temporary:** Fixed Term, benefit eligible

The Alonzo W. Ashley Internship Program was named in honor of Al Ashley, who retired from SLAC in 1999 after 31 years of dedicated and exemplary service, particularly in the area of championing diversity in the sciences and engineering. During his tenure at SLAC, Al pioneered programs that promoted diversity and encouraged career development for employees, and career exploration for talented students. He was a recipient of a 2005 NSF Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring in recognition of his outstanding mentoring efforts and programs that enhanced the participation of historically underrepresented groups in science, mathematics, and engineering. Al served as a mentor to hundreds of emerging scientists and engineers during their journey to their chosen field.

This program is designed to provide a year-long research/employment experience in each of our five major divisions. The program is intended for post-graduate candidates with the longer-term objective of potentially moving them into regular employment with the lab.

**Program Overview**  
The Alonzo W. Ashley Internship Program provides five interns practical experience in mission critical fields with the expressed objective of bridging education and professional work experience. These one-year, limited term positions will provide the participant with valuable experience working at a DOE National Lab and exposure to world class science and operations.

**Eligibility**  
Candidates must have completed their Bachelor of Science degree in mechanical engineering and be a U.S. citizen or documented resident alien.

Candidates should be familiar with 3-D solid modeling, stress analysis and geometric dimensioning and tolerancing. Candidates should demonstrate ability to conceptualize innovative and creative designs using analytical and problem solving skills. He/she shall exhibit a strong understanding of heat transfer, thermal stress analysis, structural analysis, and vacuum system analysis. Candidates should also demonstrate ability to communicate effectively both orally and in writing, particularly when interfacing with physicists, scientists, other engineers, and technicians. Further, their career aspirations must lie within the scope of employment opportunities available at SLAC.

**Responsibilities**

The Accelerator Directorate at SLAC develops world-leading accelerator science and technologies for future accelerators while enabling user research and accelerator R&D programs today.  The Accelerator Directorate Mechanical Engineer will report to the Accelerator Mechanical Engineering Department Head and has the following responsibilities: Design, procure, manufacture, install and commission beamline and experiment-specific hardware, such as ultra-high vacuum chambers, beam power absorbing devices, diagnostic apparatus, mirrors, lenses, monochrometers and kinematic supports.  Ensure that existing beamline systems meet performance objectives; identify and implement opportunities to improve system performance.  Manage associated engineering projects from conception through design, construction, field installation and commissioning.  Responsible for keeping his/her project on budget and on schedule; this includes keeping management informed of scope changes, critical project needs or schedule and budget variations.  Create engineering specifications that meet the requirements of the scientific community, which requires constant communication with the system scientists to ensure that optimal engineering solutions to meet scientific requirements are achieved.  Responsible for thermal, structural, vibration, and vacuum analysis.  Responsible for design reports, design reviews, cost estimates, schedules, system documentation and test reports.  Provide technical guidance to design staff.  Provide input to cost account management.  Responsible for applying SLAC Environmental Safety and Health procedures to all tasks.

**Skills Required**

Desired skills: Manufacturing, production coordination, and project budget and scheduling experience. Experience in the design, construction, and operation of accelerator or synchrotron instrumentation and experiments. Knowledge of electromagnets, optics, instrumentation, detectors, opto-mechanical hardware, and ultra-high vacuum systems.

For consideration of candidacy for this one-year paid, benefited position, please submit your resume along with college transcripts indicating your GPA from your university, and two letters of recommendation to [mmastro@slac.stanford.edu](mailto:mmastro@slac.stanford.edu).