Lawrence Livermore National Laboratory (LLNL) is one of the most prestigious research institutions in the world. LLNL is a “first-class” laboratory for science and technology solutions to the toughest and most important problems affecting national and global security. Right now the nation faces tremendous challenges; many of them related to national, economic, energy, and environmental security. Successfully meeting these challenges will require innovative and game-changing new science and technology discoveries and solutions.

At LLNL, teams of physicists, chemists, biologists, engineers and other researchers work together to achieve technical innovations and scientific breakthroughs and transform these advances into solutions to nationally important problems.

We are recognized for our excellence in business and operations and our responsible stewardship of the resources entrusted to us.

If you are interested in contributing to pushing the frontiers of knowledge to build the scientific and technological foundation that will be needed to address the national security issues of the future then we invite you to apply!

Are you up to the Challenge?

Laser Systems Engineering and Operations (LSEO) Division of the Engineering Directorate has an opening for an Engineer with broad knowledge and relevant experience in the areas of high voltage, pulsed power, controls, high speed instrumentation, fast diagnostics, and grounding/shielding in high EMP (electromagnetic pulse) environments. The National Ignition Facility (NIF) laser is the world’s highest energy pulsed laser system, capable of producing over 1.8 MJ of optical energy. The successful candidate will be responsible for engineering support of the system including the design and development of system upgrades to continually improve system performance and reliability as well as operation, maintenance, and repair of the PEPC (Plasma Electrode Pockels Cell) system on the (NIF) laser. The successful candidate may provide engineering support to the other power conditioning systems on NIF including the PCS (Power Conditioning System) and PCU (Power Conditioning Unit) systems.
What you will do:

- Provide engineering expertise and design capability to ensure the reliable and safe operation of the PEPC system on NIF.
- Support the continued development and design of high voltage solid-state pulsers for the multi-pulse ARC PEPC system.
- Develop, maintain, and present metrics for PEPC system reliability and performance.
- Use the PEPC performance metrics to guide design efforts to continually upgrade the PEPC system to improve performance and reliability.
- Provide engineering design support to the NIF power conditioning team.
- Work in multi-disciplinary teams (e.g. mechanical and electrical engineering, physics, chemistry) to solve complex technical problems.
- Analyze and model/simulate the electrical performance of system components under dynamic electrical loads and/or harsh electromagnetic interference conditions.
- Adhere to the highest standards of personnel and facility safety in performing tests and experiments.
- Lead and/or participate in multi-disciplinary design/peer reviews of work to ensure that the experiments/tests, hardware, and data acquisition systems are safe and the experimental designs are technically sound.
- Document activities and results in formal reports; present the results for peer reviews.
- Provide technical guidance to external contractors fabricating customized electrical equipment, and experimental assemblies for experimental programs.

What you will need:

- **US Citizenship required.**
- MS in Electronics Engineering or equivalent level of demonstrated knowledge.
- Advanced knowledge of high voltage/pulsed power systems, including prime power.
- Significant experience in one or more of the following areas: pulsed power, power modulation/switching, grounding and shielding in a high EMI environment, or diagnostics/instrumentation systems associated with these areas.
- Significant experience designing, building, testing, and operating high-voltage pulsed-power systems.
- Significant experience performing computational modeling and analysis to understand and predict system performance using SPICE, MathCad, and/or Maxwell modeling tools.
- Significant experience conducting and participating in design reviews.
**Bonus Points:**

- PhD in Electronics Engineering or related field.
- Understanding of high-power switched mode power supply design and implementation.
- Experience with high voltage/high current battery systems including charging and battery management systems.
- Experience with high-speed and/or high-power electronics.
- Familiarity and/or experience with pulsed laser systems.
- Understanding of circuit breaker/fuse coordination.
- Knowledge of electrical packaging technologies.
- LabVIEW programming experience.

LLNL offers a challenging environment and a competitive salary/benefits package. **To view and apply for this job, go to** [https://careers.llnl.gov/](https://careers.llnl.gov/) **and type 100037 into the search box.**

LLNL is an affirmative action/ equal opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, marital status, national origin, ancestry, sex, sexual orientation, disability, medical condition, protected veteran status, age, citizenship, or any other characteristic protected by law.

**For all other questions please contact:**

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