

Computational Accelerator Physicist Postdoc (Multiple Openings)

Bay Area, California, United States

Postdoctoral Fellow

AA-Accelerator Tech-
Applied Phys

92244

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Lawrence Berkeley National Lab's (LBNL) Accelerator Tech-Applied Physics (ATAP) Division has an opening for a Computational Accelerator Physicist Postdoc to join the team.

In this exciting role, you will participate in the advancement of the theoretical and computational beam, accelerator, and plasma physics through one or more of the various activities that occur in the program. These include the development of novel or improved theoretical models, the development, analysis and implementation of novel algorithms, the development and maintenance of state-of-the-art simulation codes, the application of the codes to the modeling of beams, particle accelerators, light sources, plasma devices, and other synergistic problems, the use of machine learning to speed up time to the solution during simulations and particle accelerator optimizations, and the exploration of new computing paradigms such as quantum computing.

What You Will Do:

- Participate in the development of better or new theoretical models.
- Develop state-of-the-art simulation codes.
- Develop and analyze novel algorithms.
- Apply simulation codes to the modeling of beams, particle accelerators, light sources or plasma devices.
- Conduct original research independently and in collaborations.
- Document and present results at collaboration meetings, seminars, workshops and conferences and publish in refereed journals.
- Mentor students as needed.
- Adhere to Environment, Safety, and Health (ESH) policies and practices.

What is Required:

- Ph.D. in Physics, Computer Science, Applied Mathematics, or a related field.
- Knowledge of beam physics, particle accelerator physics, plasma physics, laser-plasma interactions, plasma-based acceleration or related field.
- Experience in large-scale parallel scientific computing or performance optimization on modern architectures.
- Proficiency with programming languages and numerical methods used in scientific research, including parallel programming, data analysis, and visualization.
- Demonstrated publication record in a relevant field and proficiency in presenting and publishing scientific results.
- Excellent analytical, organizational, and multitasking skills.
- Excellent verbal and written communication and prioritization/organization skills.

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