

Postdoctoral Position
Uncertainty quantification and predictive machine learning
Sandia National Laboratories, Livermore, CA

To Apply:

- go to http://www.sandia.gov/careers/students_postdocs/postdocs.html
- click 'View All Jobs'
- search for Job ID: 673265

A computational science postdoctoral position is available immediately at Sandia National Laboratories, Livermore, California, USA, in the area of uncertainty quantification (UQ) and predictive machine learning in complex systems. This position involves the use of UQ and ML methods to study the structure of plasma models, and the development of ML surrogates for use in reduced order models for large-scale combustion simulations. Planned activities include employing global sensitivity analysis, Bayesian inference, and manifold learning to analyze predictions of dynamical systems, and the study of probabilistic neural network surrogate techniques for error assessment in reduced order models. The selected candidate will use advanced scientific software tools on DOE high-performance computing platforms, and will collaborate with experts at Sandia and other Department of Energy national labs.

On any given day you might:

- Work as part of a technical team conducting innovative research in foundational or applied data science
- Apply data science capabilities to scientific and engineering applications relevant to Sandia's diverse mission space
- Publish outstanding new developments in peer-reviewed scientific journals
- Contribute to development of open-source software
- Interact and cooperate with a diverse set of colleagues

Qualifications We Require

- Ph.D. in applied mathematics, engineering, computer science, or a related computational sciences subject area
- Experience with UQ methods and/or machine learning techniques (supervised/unsupervised)
- Ability to work in collaborative, interdisciplinary research environments on problems comprising diverse application domains
- An inquisitive mind interested in developing and creating innovative solutions to challenging computational sciences questions with practical relevance.

Qualifications We Desire

- Experience in solving practical problems in science and engineering that involve encounters with real-world data or predictive simulations

About Our Team

Sandia's Extreme-scale Data Science & Analytics department provides strong expertise in data science and analytics, supporting Sandia's physical sciences and engineering mission partners by enabling the extraction of critical insights from extreme-scale observations, simulations and experiments. Capabilities in the department combine recent advances in applied mathematics and computer science, with expertise in uncertainty quantification, reduced order modeling, linear/multilinear methods, nonlinear optimization, and feature identification techniques. These capabilities complement and leverage existing research in other Sandia departments.