

R&D Thermal Sciences Analysis Engineer (Experienced)



Location: Albuquerque, NM
Full-Time, Regular

What Your Job Will Be Like

We are seeking a mid-career or highly-experienced professional with an interest or experience in thermal engineering/sciences and/or software development in thermal sciences. With time, the candidate will be expected to develop the capability to provide modeling and analysis support for multiple applications in a fast-paced environment.

Key functions of this role include, but are not limited to:

- Perform application-driven thermal analyses while contributing to research directions in support of Sandia's weapons, space, and energy programs
- Provide modeling and simulation support for multiple applications
- Perform numerical modeling, to include solid modeling, meshing, and simulation software
- Develop software functions/subroutines to customize analysis software and/or to analyze computational results

This position is classified as R&D Computer Science.

Qualifications We Require

- Bachelor's and Master's degree in Mechanical Engineering, Chemical Engineering, Nuclear Engineering, Aerospace Engineering, Computer Science or related discipline with a focus on continuum heat transfer and thermal sciences, plus 2 years' experience; or PhD in Mechanical Engineering, Chemical Engineering, Nuclear Engineering, Aerospace Engineering, Computer Science or related discipline with a focus on continuum heat transfer and thermal sciences
- Experience in conduction, convection, and/or radiation heat transfer
- Experience with modeling and simulation tools
- Ability to obtain and maintain a DoE Q clearance

Qualifications We Desire

- PhD in Mechanical Engineering, Chemical Engineering, Nuclear Engineering, Aerospace Engineering, Computer Science or related discipline with a focus on continuum heat transfer and thermal sciences
- Experience in coupled thermal-mechanical FEM analyses, Validation & Verification and Uncertainty Quantification (V&V/UQ) techniques applied to FEM analyses and thermal or fluids finite element software development
- Strong academic credentials and personal/professional references
- Experience in the development and/or application of finite element analysis, solid modeling, and meshing software (Comsol, Ansys, Fluent, Solidworks, Pro-E, Patran, and/or other thermal analysis software)
- Strong communication, organizational, and problem-solving skills
- Experience working both independently and in a team environment
- Ability to organize and prioritize work requirements while meeting customer deadlines in a dynamic environment

About Our Team

The Thermal Sciences and Engineering Department at Sandia National Laboratories conducts a broad range of technical activities focused on heat transfer, numerical analyses, and related capabilities. Our work spans fundamental research and development to engineering analysis of applied problems. Our basic research activities focus on developing the scientific insights and physical models that will enhance our predictive simulation capabilities. Representative research areas include: radiation heat transfer, heat transfer in the presence of decomposing foams, heat transfer associated with fires (hydrocarbons, propellants, or composite materials), and the coupling of heat transfer with structural response and failure. Our engineering analyses support a wide variety of projects in the areas of environments specification, design, performance, and system safety across a range of applications of interest to Sandia. Representative projects include assessing thermal response for weapons' safety, modeling and controlling thermal environments for space applications, solar thermal/chemical applications, and manufacturing processes. Projects range from small modeling efforts requiring rapid and agile turnaround to high consequence applications requiring large thermal models with heavy emphasis on credibility of model results by exercising and advancing sound V&V/UQ practices. We work closely with experimentalists and code developers to improve the fidelity of supporting tests and to ensure needed code functionality is available.

To Apply:

Visit:
sandia.gov/careers and
search for job number
658119

About Sandia:

Sandia provides employees with a comprehensive benefits package that includes medical, dental, vision, and a 401(k) with company-match. Our culture values work-life balance; we offer programs such as flexible work schedules with alternate Fridays off, on-site fitness facilities, and three weeks of vacation. In addition, Sandia/California enjoys close proximity to San Francisco, the Silicon Valley, first-tier universities, and diverse cultural and year-round recreational opportunities.

Sandia National Laboratories is the nation's premier science and engineering lab for national security and technology innovation. We are a world-class team of scientists, engineers, technologists, post docs, and visiting researchers all focused on cutting-edge technology, ranging from homeland defense, global security, biotechnology, and environmental preservation to energy and combustion research, computer security, and nuclear defense.