

Sr. Aeronautical Engineer

Overview and Background

SPARC Research was founded in 2018 to advance state-of-the-art rocket and airbreathing technology development, preliminary design, and prototype demonstration using modern Multiphysics modeling tools. With industry leading years of combined experience in rocket propulsion, SPARC's personnel create relationships with customers that are built on trust.

Working with established propulsion suppliers, missile prime contractors, and Government laboratories to provide unique design solutions to demanding propulsion requirements, SPARC Research provides unbiased technical analyses and design solutions that our customers can count on. SPARC Research currently has 20 employees, numerous interns and consultants, and is still growing. The CEO, president, and directors provide a combined 165 years of experience in rocket propulsion and government contracting.

Keys to company success:

- Relationships with customers that are built on trust
- Unbiased technical analysis and design solutions a customer can count on
- Providing a work life for employees that is enjoyable and rewarding
- A transparent management approach that recognizes personal employee contributions
- Engagement with educational institutions at all levels

SPARC Research is in need of a **Sr. Aeronautical Engineer** to join our team in Warrenton, VA. Our position requires significant engineering experience with a demonstrated knowledge base of rocket motor propulsion development and manufacturing, as well as problem solving skills that include but are not limited to: development and production of rocket motor cases, insulation, energetics additive manufacturing, and other critical components for solid or liquid rocket motors and high supersonic - hypersonic propulsion systems.

Job Responsibilities

The **Sr. Aeronautical Engineer** will be responsible for thermal and flow analysis for both liquid and solid rocket motor design. They will communicate with the integrated project team (IPT), participate in on-site and offsite technical meetings, as well as trade shows and conferences. The job will require 35% travel to customer sites, meetings, and trade shows.

Requirements

Our position requires a bachelor's degree in aeronautical engineering as well as a proven track record of working with department of defense (DoD) for a minimum of ten (10) years, or an equivalent combination of education and experience.

Additional Requirements:

- Perform aerothermal and fluids modelling, and analysis of liquid and solid rocket motor (SRM) hardware components
- Use computational fluid dynamics (CFD) to analyze solid, and internal and external liquid motor environments
- Assist in defining boundary conditions for structural and thermal analysis
- Fluid dynamics practice standardization recommendations for internal use
- Ability to generate technical presentations and present work during integrated project team (IPT), customer meetings, and conferences
- Must satisfy federal government requirements for access to government information, which requires U.S. Citizenship, or U.S. Permanent Residency

Preferred Qualifications:

- Master's degree in Aeronautical Engineering
- Experience with risk management, system requirement flow downs, and requirements tracking
- Working knowledge of various drafting tools and software. Geometry-based modeling is desirable
- Experience in the design and development of mechanical components, including thermal and structural analysis, practice, and principles
- General component and system level knowledge of solid and liquid missile hardware is desirable
- Active SECRET clearance
- Experience working with traditional prime contractors