Who We Are:

Join the Propulsion and Energy Section to conduct contract engineering for applied research and development in the industries of oil & gas, air-breathing propulsion, power generation, and liquid propulsion.

Objectives of this Role:

- Conduct applied combustion research to develop and demonstrate new technologies to support both government and commercial customers.
- Adapt your skill set to new problems and application areas.
- Each project has a new challenge and something to learn.
- Rely on engineering fundamentals, literature, modeling tools, and team experience to overcome challenges and be successful.
- Conduct combustion design and analysis studies using low-fidelity chemical kinetic computations as well as highly detailed CFD simulations.
- Support combustion test development and operations for current test rigs at SwRI as well as future prototype combustion testing.
- Act as a primary technical focal point for combustion R&D.
- Be a solution-oriented problem solver that exercises creativity and independent judgement in determining approaches to solve a wide range of technical problems with minor supervision.
- Write technical reports, papers, and prepare technical presentations for client meetings and conferences.
- Attend and present at conferences or other events to actively promote SwRI business.

Daily and Monthly Responsibilities:

- Provide analytical or experimental support to more than one project in a team environment, which can include literature reviews, testing, design, and simulation development.
- Use commercial engineering software for design and analysis, such as computational fluid dynamics (CFD).
- Contribute technical development of experimental test programs, including developing/operating a new test rig.
- Direct testing & modification of a test rig to meet new project objectives.
- Advise the technical work of other engineers/technicians to combustion testing/simulations.
- Conduct applied combustion research in a variety of applications including power generation, propulsion, direct-fired oxy-combustion, alternative fuels (hydrogen, ammonia, etc.).
- Work across the Institute to draw on the experience from thousands of engineers and technicians.
- Assess best approach to solve problems and interrogate results for reliability and provide troubleshooting support for tests and simulations with a firm understanding of theories/concepts using a first-principles approach.
- Learn new technical skills to complete project work.

Requirements:
• Requires a Bachelor’s with a 3.20 GPA in Mechanical Engineering or related engineering degree
• MS degrees in engineering will require 4 years, PhD in engineering will require 3 years
• 5 years: Conducting combustion, fluid, or thermal systems analyses or testing with a firm understanding of the underlying physics
• Test experience with combustion systems with turbomachinery applications, such as lean pre-mix combustion or other developing combustion technologies, such as oxy-fuel combustion or hydrogen combustion
• Experience working as a primary technical contributor to large experimental test and development programs
• A valid/clear driver’s license is required

Special Requirements:

Must be a U.S. citizen or Permanent Resident due to ITAR work in section.

Job Locations: San Antonio, Texas

To apply:

For more information about this division, visit the Mechanical Engineering home page.

For benefits information at our San Antonio location, click here.
For benefits information at all other locations, click here.

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Race/Color/Religion/Sex/Sexual Orientation/Gender Identity/National Origin/Disabled/Veteran
Committed to Diversity in the Workplace