



Postdoctoral Research Associate

Job Title: Postdoctoral Researcher

Location: Washington, DC

Applicant Requirements:

The Combustion and Reacting Transport Section (Code 6185) of the U.S. Naval Research Laboratory is seeking candidates for postdoctoral research fellowships with the potential to transition to civil service. Motivated candidates with **permanent U.S. residency and a doctorate degree** in aerospace engineering, chemical engineering, chemistry, fire protection engineering, mechanical engineering, optics, physics, or closely related fields are invited to apply for a postdoctoral research position within the Combustion and Reacting Transport Section of the Navy Technology Center for Safety and Survivability. Topics include fundamental to advanced research on combustion-related power and energy, fire suppression, and pollution remediation topics.

Particular areas of interest and skill include, but are not limited to, the following:

- Multi-species Raman spectroscopy of hydrogen and hydrocarbon combustion
- Spray characterization using PDI, laser diffraction, backscatter methods, and sprat diagnostic development
- Detonating flows
- Gas, liquid, solid, or mixed-phase fuel combustion
- Laser induced fluorescence
- Rayleigh spectroscopy and interferometry
- CARS thermometry and analysis
- High-speed and high-repetition diagnostics
- Velocimetry methods
- Machine learning and multi-variable statistical analysis

A strong record of research accomplishments, the ability to work in and direct multi-disciplinary team environments, excellent oral

and written communications skills, presentations of scientific results at national meetings, and/or publications in peer-reviewed journals are desired. Ambitious candidates with experience in optical diagnostics of single and multi-phase (gaseous, spray, particulate, solid, foam) combustion and reacting phenomena, chemical kinetics, instrumentation development, data processing and interpretation, laboratory and practical-scale experimental development are most desired. Candidates with analytical development from mathematical theory of fundamental molecular spectroscopy theory and combustion phenomena have an advantage. Hands-on experience in a laboratory and field setting with working knowledge of data acquisition and processing systems would be beneficial. The applicant will work with an R&D team on a variety of programs and disciplines, implement new experimental designs, coordinate laboratory personnel, and interface with the Department of Defense and other government and non-government entities to develop new avenues of research. State-of-the-art instrumentation and infrastructure are available.

Successful and competitive candidates that can demonstrate technical expertise; the ability to identify, develop, and secure funding for novel research topics; and the ability to successfully collaborate across multiple organizations and technical fields will transition to civil service.

Positions open only to citizens or permanent residents of the U.S.

Contact:

Dr. Steven Tuttle

Combustion and Reacting Transport, [6185](#)

Navy Technology Center for Safety and Survivability, 6180

US Naval Research Laboratory

Washington, DC 20375

+1 (202) 767-0810

steven.tuttle@nrl.navy.mil

[ASEE](#), [NRC B8394](#), [NRCB2778](#), [NRC B2779](#)