

Multiple PhD Openings in Experimental Combustion under Extreme Conditions using Advanced Laser-Based Diagnostics

Multiple Ph.D. positions with full scholarships are available in the Plasma and Combustion Research Laboratory (PCRL) starting from **Spring 2022** in the Mechanical and Aerospace Engineering Department (MAE) at West Virginia University (<https://www.wvu.edu/>). The successful candidate will have access to world-class research facilities and work in a vibrant and dynamic research group with the focus on cutting-edge research on ignition, combustion, low-temperature plasma and alternative fuels using laser-based advanced diagnostics. PCRL welcomes highly motivated and hard-working applicants interested in working on multidisciplinary projects in the areas of **combustion, propulsion and plasma physics** experimentation.

Basic Qualifications:

- A M.Sc. in Mechanical Engineering, Aerospace Engineering, or other closely-related discipline.
- Outstanding academic records.
- Satisfactory publication record as a first author in peer-reviewed journal papers.
- Ability and high self-motivation to work productively and ethically, both independently and as part of a diverse team.
- Excellent verbal and written communication skills in English.

Required Qualifications:

- Demonstrated experience in lab experimentation (e.g., data acquisition, gas handling, working with tools, lab maintenance and safety).
- Demonstrated experience with optical diagnostics for quantitative measurement of species concentration, temperature, pressure and/or velocity.

Preferred Qualifications:

- Experience with combustion at extreme conditions (i.e., high-pressure, high-temperature, high-velocity and low fuel concentration).
- Prior experience with laser calibration and tuning.
- Experience with machining (cutting, milling, drilling, ...).
- Prior basic theoretical knowledge of quantum mechanics and laser spectroscopy.

How to Apply

Interested applicants are encouraged to complete the questionnaire form by clicking here: <https://forms.gle/JNaSYBW5rfDZEjdA6>. You will be contacted for the next step (i.e., formal interview and other documents) if your experience and background match our requirements. If you have any questions about these positions, please contact Dr. Omid Askari at omid.askari@mail.wvu.edu.

West Virginia University is the comprehensive Land Grant University of the State of West Virginia with a main campus enrollment of over 29,000 students, and a Carnegie Classification of Highest Research Activity (i.e., R1 University). Morgantown is a safe, inclusive and family-friendly community with a regional population of about 137,000 residents and is ranked among the most livable small cities in the country. It lies within a high technology corridor that includes several federal research facilities, such as the NASA's Independent Verification and Validation Facility (IV&V), the U.S. Department of Energy's National Energy Technology Laboratory (NETL), the National Institute of Occupational Safety and Health (NIOSH), and the Federal Bureau of Investigation (FBI). The city is located within reasonable driving distances from Pittsburgh, PA and Washington, DC. The MAE Department has 35 tenure-track or tenured faculty members, about 700 undergraduate and 115 graduate students. It offers degrees at the B.S., M.S., and Ph.D. levels, including dual B.S. degrees in both aerospace and mechanical engineering.