



The Combustion Institute

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CombustionInstitute.org

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Post-Doc Combustion-Propulsion Position

The Propulsion & Energy Research Laboratory at the Center for Advanced Turbomachinery & Energy Research and the Department of Mechanical & Aerospace Engineering, University of Central Florida is currently seeking a post-doctoral candidate for state of the art research on various sponsored projects for the Air Force, Department of Energy, American Chemical Society, Aerojet, and Siemens related to multi-phase reacting turbulent flows for the next generation advanced propulsion and combustion energy technologies. The position offers a competitive salary (\$50,000) with benefits (\$17,180), travel (\$5,000), and post-doc mentoring for the next career stage.

Essential Requirements

Candidates must have the following in order to be considered for this position:

- A recent Ph.D. in Mechanical Engineering or Aerospace Engineering
- A strong background and training in thermal sciences, fluid mechanics, and combustion sciences
- A demonstrated accomplishment in experimental and numerical research
- A working style demonstrating initiative and willingness to take on individual responsibility
- Excellent verbal and written communication skills
- The ability to work effectively with others

Desired:

- Experience with advanced laser-based optical diagnostics (high-speed Stereo and Tomo-PIV and PLIF) and experience with combustion research.

How to Apply

To apply, please send a C.V./resume to Dr. Kareem Ahmed (Kareem.Ahmed@ucf.edu).

The PERL is focused on investigating multi-phase turbulent reacting flows, clean combustion strategies, and alternative fuels for the next generation advanced propulsion and combustion energy technologies. The lab's research objective is concentrated on advancing the scientific research through fundamental physics understanding of turbulent reacting flows, combustion dynamics, pressure gain combustion, supersonic compressible flows, fluid mechanics, flow control, flame-fluidics interactions, vortex dynamics, and hydrodynamic instabilities. The lab is specialized in experimental investigations, physics-based models, and development of unit problems that couples fundamental lab research to national technological problems. The PERL is equipped with state-of-the-art advanced high-speed laser diagnostics and

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experimental tools for studying turbulent flow mixing and reactions. Computational methods (CFD) are developed and utilized in coordination with experimental research. (<http://mae.ucf.edu/PERL/>)

About the Center for Advanced Turbomachinery and Energy Research (CATER): (<http://cater.cecs.ucf.edu/>)

The center is focused on technologies for power generation, aviation and space propulsion. Central Florida has a unique position in the world as a convergence for Turbine, Energy, and Space technologies. With the presence of Siemens Energy, Pratt & Whitney, Mitsubishi Power Systems, Alstom / Power Systems Manufacturing, Aerojet Rocketdyne, Florida Turbine Technologies, Chromalloy, Boeing, Lockheed Martin, Embraer, Kennedy Space Center in or near Central Florida, the Center for Advanced Turbomachinery and Energy Research at the University of Central Florida has a unique opportunity and responsibility for taking the leadership in innovation and advanced technology development.

About UCF and Orlando, Florida:

The University of Central Florida, or UCF, is an American metropolitan public research university in Orlando, Florida. It is the largest university in the United States by undergraduate enrollment, as well as the largest by total enrollment. Located in Orlando, FL, UCF is one of the nation's most dynamic metropolitan research universities, having been recognized as a "very high research activity" institution by the Carnegie Foundation. U.S. News & World Report has named UCF one of the nation's most innovative colleges.

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