Postdoctoral Fellow in Advanced LPG Combustion Strategies

**Qualifications:** The Energy Institute at Colorado State University (CSU) is seeking a talented postdoctoral fellow starting October 2020. The ideal candidate should have:

- PhD in Mechanical Engineering or closely related field
- Strong background in laboratory-based combustion research
- Demonstrated ability to produce peer-reviewed journal publications
- Strong verbal and written English communication skills
- Experience with laboratory testing of internal combustion engines and combustion diagnostics
- Experience with laboratory combustion devices such as high pressure spray chambers and rapid compression machines
- Experience with engine simulation and computational fluid dynamics

**Environment:** The Engines and Energy Conversion Laboratory (EECL) within the Energy Institute at CSU located in Fort Collins, CO was founded in 1992 and is among the largest academic engine research facilities in the United States. Located at the 100,000 ft² Powerhouse Energy Campus, the 24,000 ft² EECL houses research programs focused on performance, control, and emissions from compression ignition (CI), spark ignition (SI), precombustion chamber (PCC) ignition, and dual fuel engines powered by natural gas (NG), liquid petroleum fuels, ethanol, and advanced biofuels. The EECL currently maintains ten instrumented, operational test engines ranging from 1 to 2500 hp and an extensive collection of engine performance and emissions test equipment.

**Benefits:** The position offers attractive compensation and a benefits package.

**Description:** The new hire will be working with both the Principal & Co Principal Investigators at the university in support of the development of advanced combustion strategies for liquefied petroleum gas (LPG) engines. Fundamental studies will be performed using a rapid compression machine, high pressure spray chamber, CFR engine, and CFD aimed at improving engine efficiency. These results will be applied to engine design and control, culminating in an on-engine demonstration using a Cummins heavy duty 2.5 L single cylinder research engine. The project is sponsored by the DOE/EERE Vehicle Technologies Office. Specific responsibilities will include:

- Commissioning laboratory facilities required to carry out spray diagnostics of an LPG direct injection system.
- Performing fundamental experiments utilizing a rapid compression machine, high pressure spray chamber, variable compression ratio CFR engine, and Cummins single cylinder 2.5 L heavy duty research engine.
- Working with research team that includes students, Argonne National Laboratory and Cummins scientists, and commercial equipment suppliers, integrate advanced techniques into final combustion recipe for demonstration of high efficiency LPG engine operation
- Data analysis and preparation of manuscripts and grant applications

**Application:** Interested candidates should apply here: [https://jobs.colostate.edu/postings/79906](https://jobs.colostate.edu/postings/79906)

For any questions directly contact Dr. Olsen by way of email address provided below.

Daniel B. Olsen, Ph.D.
Professor of Mechanical Engineering
Daniel.Olsen@colostate.edu
O: (970)491-3580 | C: (970)214-9334
1374 Campus Delivery | Fort Collins, CO 80523