

Research Scientist II

Development of Emissions Strategies for Duel Fuel Premixed Compression Ignition Engines

The Bio-fuels and Engine Research Center in the Department of Mechanical Engineering at Kandula Srinivas Reddy Memorial College of Engineering (KSRMCE) invite applications for the appointment of a Research Scientist position to co-lead our efforts in the development of Emissions Strategies for a Duel Fuel Compression Ignition Engine.

This position is made possible by the grants from the Government of India, MAN S.E. (Germany) and DNV (Norway). The project also includes active experimental and modeling collaborations with the Automotive Research Center at the University of Michigan (Ann Arbor, US).

This research focuses on the development of various emissions strategies for a duel fuel low temperature premixed compression ignition engine. The initial part (8 months) of the work will include a duel fuel engine and emissions test bench set-up in collaboration with MAN S.E. (Germany) and AVL (US) for the measurement of various emissions characteristics under different bio-fuel usages. This section also includes the optimization of various fuels combinations to optimize the pilot and main (and post) injection strategies for meeting emissions regulations under Bharat V and Euro VI standards. One of the components of the fuel in the duel fuel engine is going to be several different kinds of bio-fuels our process laboratory generates.

The second phase of the work (6 months) would be to optimize engine parameters and test various emissions catalysts i.e. Diesel oxidation catalysts, Selective Catalytic Reduction systems and Diesel particulate filters to prescribe the optimal emissions strategies for the duel fuel engine. The focus for this part of the work will continue to be the usage of several grades of bio-fuels produced by our process laboratory with the duel fuel engine.

We seek a motivated researcher with excellent communication skills to co-ordinate with the multi-national research groups involved in this project. Successful candidate will lead a research team consisting of technicians, graduate students and staff to achieve the research goals. He/She will have prior experience in the fields of dynamometer-based emissions measurement of diesel engine subsystems. A Ph.D. in Mechanical Engineering is a pre-requisite.

Demonstrated experience in the following areas is desired: (1) Internal combustion engines (2) dynamometer based emissions testing (3) advanced thermodynamics and heat transfer (4) some understanding of emissions chemistry (not requisite) (4) presentation skills to international audience.

The position will give the candidate an exposure to research groups around the world. The remuneration is extremely competitive given the global research perspective.

KSRMCE is a 200 acre campus and is situated in a serene and congenial atmosphere 7 KM's away from Kadapa town, Andhra Pradesh on Kadapa-Pulivendula state highway. It is ideally located within 3-4 hours of commute to both Chennai and Bangalore by road or 1.5 hours from the Tirupati airport. KSRMCE has three different campuses with excellent research and living facilities. To apply please send a cover letter and resume with references to Dr. Chaitanya Sampara at csampara@ksrmce.ac.in

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