

Mahesh Makkar, PEng, PhD has 15 years of experience in industrial research and development projects, project management and business development.

Mahesh worked as Research Engineer for 10 years in India on projects related to internal combustion engines, heat transfer and energy conservation. To get international research experience, Mahesh won the prestigious *British Commonwealth Fellowship* to study for PhD degree in England from 1993 to 1997.

Mahesh moved to Canada in 2000 and started as Manager, Business Development in Engine Systems Development Centre, Montreal. Developed good business and research collaborations with National Research Council and CP Rail. Further East, in New Brunswick, Mahesh worked as Business Analyst with McCain Foods.

In 2003, Mahesh moved with his family to Wild Rose Country, Alberta to join Husky in Lloydminster. Currently, Mahesh is Staff Production Engineer in Husky.

Mahesh is a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA).

ABSTRACT

Title: The Effect of Quality of Gaseous Fuels (methane and carbon dioxide) on the combustion and performance of Dual-Fuel Diesel Engine.

The petroleum-based fuels, which are playing a great role in improving the economy of the World, are finite and reserves are diminishing at a faster rate. To soften the impact of the probable oil crises, petroleum industry and researchers worldwide are exploring and evaluating the potential of alternative fuels.

Mahesh carried on the research in the University of Surrey, England in 1993-97 as a continuation to the work initiated by Professor Gazi Karim, a renowned research expert in the field of dual-fuel engines at the University of Calgary. Coincidentally, Mahesh is working in the same province now.

The research work addresses on the following aspects:

- Effect of varying quality (simulated biogas, sewage and landfill gas) on diesel engines
- Overall efficiency
- Exhaust temperature and Peak Pressure