**IDGTE Technical Visit**

Licensed Professional Institution of
the Engineering Council

**UNIVERSITY OF BIRMINGHAM**
The School of Mechanical Engineering, Edgbaston, Birmingham B15 2TT

**Thursday 23 February 2012**

The Future Power Systems Research Group – University of Birmingham has invited IDGTE members and guests to its research facilities.

The new state-of-the-art laboratories, funded by Advantage West Midlands (AWM) and the European Regional Development Fund (ERDF,) as part of the Birmingham Science City initiative, based at the School of Mechanical Engineering, University of Birmingham, have been installed to expand the existing facilities to investigate the highly dynamic aspects of the combustion of alternative fuels including "difficult" bio-fuels. The design of this facility integrates a cold-start dynamic engine combustion test chamber with sophisticated combustion and fuel research laboratories for the testing and development of both power-trains and fuels.

FPS areas of expertise:

- Homogenous charge compression ignition (HCCI)
- Optical diagnostics of flow and combustion in engines
- On-board hydrogen generation by exhaust gas fuel reforming
- Diesel engine exhaust after-treatment
- Analysis and speciation of fuels and gaseous and particulate emissions by GC-MS and TGA/GC-MS (and also by other methods – engine testing standard methods, FTIR, DMS, SMPS, Fast FID, Fast NOx)
- Fuel and lubricant properties (lubricity, surface tension, calorific values)
- Modelling of fuel reformers end engine systems, CFD of in-cylinder flows
- Alternative fuels: animal fat, FAME biodiesels, FT diesel from methane and other feedstock
- Impact of chemical and physical properties of fuels and blends on injection system longevity and spray quality

The visit will commence at 12:00 with a presentation, followed by lunch, courtesy of FPS. A tour of the research facilities will be conducted by members of staff, concluding around 16:00 hours.

Please contact the office by **3rd February 2012** if you would like to attend this visit.

For further information, go to:
http://www.birmingham.ac.uk/research/activity/mechanical-engineering/vehicle-technology/future-power/index.aspx

or contact Jakub Piaszyk j.piaszyk@bham.ac.uk

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