

# Emission reduction technologies in diesel engines

India is planning to implement BS (Bharat Stage) VI emission norms by the year 2020. With this, advanced technologies are necessary to reduce emissions in IC engines by a large percentage. Several technologies have been tried to reduce emissions in our lab; some of them are:

## Ultra-cooled EGR (UCEGR)

Exhaust gas is cooled, using a counter flow heat exchanger, to less than 5°C and recirculated back to the engine.

## Oxidised EGR (OEGR)

Using a catalytic converter, OH and CO are oxidised to  $H_2O$  and  $CO_2$  to increase the effectiveness of exhaust gas recirculation (EGR). Part of soot also oxidises.

## Reactivity Controlled Compression Ignition (RCCI)

Introducing lesser reactivity fuels such as LPG and CNG along with air to reduce emissions.

Huge reductions in emission levels were achieved with these technologies without depleting fuel economy. All these technologies may be retrofitted.

