

## **Combustion Technologies for Zero-emission High Efficiency combustion engines**

Abstract:

The recent announcement by the UK government on the proposal to ban the sale of petrol and diesel powered cars and normal hybrid vehicles by 2035 has raised questions on the future of internal combustion (IC) engines. However, uptake of electric vehicles is too slow and the technology itself is not yet efficient enough to quickly make significant cuts to emissions. In addition, the greenhouse gas emission of the electric vehicles will hugely depend on the source of electricity generation. In the case of commercial vehicles and marine vessels, IC engines will remain dominant for the next few decades because of their high power density and long operation, their flexibility in power output, their ability to use low carbon and renewable and zero carbon fuels. In this webinar, the presentation will start with a brief overview on the powertrain technology to demonstrate the lifetime CO<sub>2</sub> emissions from battery electric, engines and hybrid engine/battery systems. This will be followed by the current research and development in combustion process and their control in internal combustion engines. Finally, it will be shown that IC engines can be operated with zero-emission of both CO<sub>2</sub> and pollutants