



EVENT-AT-A-GLANCE HIGH EFFICIENCY IC ENGINE SYMPOSIUM

Sunday, April 7 - Monday, April 8

April 7 SUNDAY

1-1:15 p.m.
Opening Remarks

1:15-:00 p.m.
Technical Session: Impact of Real World Emissions Standards and Costs

Future GHG emission legislation will require engines to become more efficient. As fines for inefficient vehicles increase, efficient vehicle fleets are needed for manufacturers to make profits. Compliance to poisonous emissions however is a discrete requirement, which must be met to be allowed to sell vehicles. As the scope of emissions characterization changes, such as RDE and WLTP come into effect, the challenges facing manufacturers to be compliant are greater than ever. This session will focus on the technical and financial challenges the industry faces to meet the latest emissions standards.

3:15-3:45 p.m.
Networking Break

3:45-5:45 p.m.
Technical Session: Engine Design Enabled by Hybrids

Hybridized powertrains market share is increasing year-on-year and will continue to do so into the future. The highest-impact benefit of hybridized powertrains is the GHG reduction under electric-only driving modes. Aside from electric driving however, there are synergistic technologies between ICE and hybridization which can increase the overall vehicle efficiency. The use of electrified turbochargers can enable further engine downsizing, as well as more dynamic driving for the customer. Larger levels of hybridization can permit different combustion strategies, such as EGR where the electric motor can be used during transients. This session will look at different ways electrification can enable higher efficiency and performance from the internal combustion engine.

6-7 p.m.
Networking Reception

April 8 MONDAY

8-10 a.m.
Technical Session: Emerging Heavy-duty Technologies
The combination of evolving greenhouse gas and pollutant emissions regulations are driving the development of highly complex and integrated heavy-duty engine systems. This session focuses on emerging heavy-duty engine system technologies that are intended to increase fuel efficiency and/or reduce emissions. Topics for this session include the reduction of parasitic and combustion heat losses, in-cylinder combustion phenomena, emissions formation, advanced air-path control, aftertreatment devices as well as waste-heat recovery systems.

10:00 a.m.-10:30
Networking Break

10:30 a.m.-12:30 p.m.
Technical Session: Advanced Control Systems
To reach fuel efficiency and emissions targets engine designers are increasing the number of control actuators used for thermal management, gas-paths, combustion systems and aftertreatment devices. This increase in calibration design space, coupled with the varying response times of actuators during transient operation, places a large burden on traditional control and calibration strategies. Considering that fuel economy and emissions benefits of additional actuators can only be realized through proper coordination significant research and development is occurring on advanced control and calibration routines. This session will focus on emerging optimal control methodologies that are capable of reducing the calibration burden of advanced internal combustion engines.

12:30-1:30 p.m.
Networking Lunch

1:30-3:30 p.m.
Technical Session: Lower Temperature Combustion
Low temperature combustion remains a promising technology for achieving higher efficiency for light-duty vehicles, but implementing the technology remains elusive. The higher efficiency is inherent in low temperature combustion strategies because of the thermodynamic advantages associated with lean combustion, reduced peak temperature, and the compatibility with high compression ratios. However, there are barriers associated with combustion control, emissions compliance, and achieving the power density requirements for on-road applications. This session focuses on emerging technologies in low temperature combustion to overcome these known barriers so that low temperature combustion can be implemented in production engines.

3:30-4
Networking Break

4-6 p.m.
Technical Session: Emerging Light-duty Technologies
The continued need for higher efficiency in light-duty engines is driving innovation at a rapid pace. This session focuses on emerging technologies and innovations that will meet the efficiency demands, including changes to the engine architecture, engine hardware components, and engine operating strategy.

**TECHNICAL
SESSION**

**NETWORKING
OPPORTUNITY**

EXHIBIT HOURS

Sunday 1-7:30 p.m.
Monday 8 a.m.-6 p.m.

REGISTRATION HOURS

Sunday 11 a.m.-5 p.m.
Monday 7 a.m.-4 p.m.