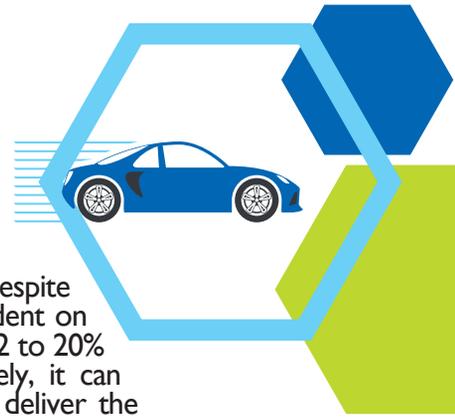


International Workshop

21st Jan 2020 h. 9.00 - 17.00

Energy Center - Via P. Borsellino 38/16 - Torino

Does the internal combustion engine have a future?



“Never before has the vehicle outlook been so uncertain and dynamic. For example, despite the personal vehicle and fuels market being a multi-trillion dollar industry and dependent on reliable forecasts into the ten-year timeframe, learned experts project anywhere from 2 to 20% (or more) battery electric vehicles (BEVs) only five years out, in 2025. Alternatively, it can reasonably be argued that low-carbon fuels are a cheaper alternative than BEVs to deliver the needed CO₂ reductions over the next 20 years. However, battery developments have exceeded recent forecasts on performance and cost, and auto companies and others are shifting billions of dollars in resources from internal combustion engines to electric vehicles.” (Tim Johnson, Corning Inc.)

“An important objective ... is to appeal to young talent, and to show that the internal combustion engine is highly unlikely to become a stranded technology in the foreseeable future. Indeed, some potential students and researchers are being dissuaded from seeking careers in IC engine research due to disparaging statements made in the popular press and elsewhere that disproportionately blame IC engines for increasing atmospheric GHGs. Without a continuous influx of enthusiastic, well-trained engineers into the profession, the potential further benefits that improved IC engines can still provide will not be realized.” (from “The Future of the Internal Combustion Engine”, International Journal of Engine Research Editorial, 2019).

This initiative is intended to provide a balanced perspective based on recently presented and published studies, with specific reference to the competitiveness and effectiveness of the IC engine as a power unit for modern and sustainable vehicles, within either a conventional or a hybrid powertrain. The workshop will thus contribute to give a sound, science and facts based answer to the question “Does the internal combustion engines have a future?”, through a series of keynotes by world-renowned experts and OEM top managers.

Speakers from FCA, General Motors, Renault, Porsche and other major OEMs have already been confirmed, and will be engaged in a final roundtable.

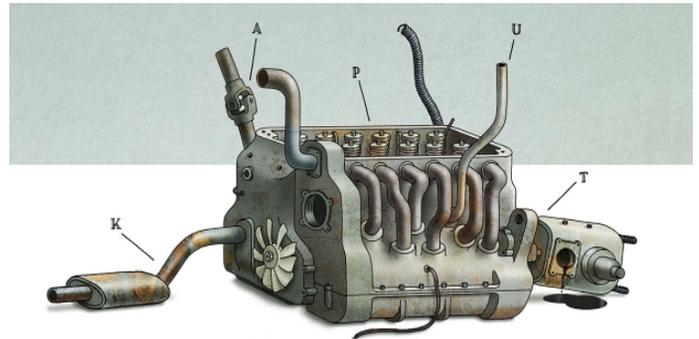


Fig.1 The Internal Combustion Engine

The Economist

The death of the internal combustion engine

It had a good run. But the end is in sight for the machine that changed the world

Opening keynote speaker will be dr. Kelly Senecal, co-founder of Convergent Science.

He is one of the original developers of CONVERGE, the industry-leading computational fluid dynamics software for reacting flow simulations. Senecal is a Fellow of the Society of Automotive Engineers, a member of the executive committee of the American Society of Mechanical Engineers, and the recipient of the 2019 ASME Internal Combustion Engine Award.

In addition to his role at Convergent Science, Senecal is an adjunct professor at the University of Wisconsin-Madison and the director and co-founder of the Computational Chemistry Consortium (C3). Senecal has authored more than 100 research papers, which have garnered over 3,000 citations. He speaks to audiences around the globe about how high-performance computing can help engineers design cleaner, more efficient propulsion systems for transportation.

Dr. Kelly Senecal



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Sign up within Monday 13 January 2020 @

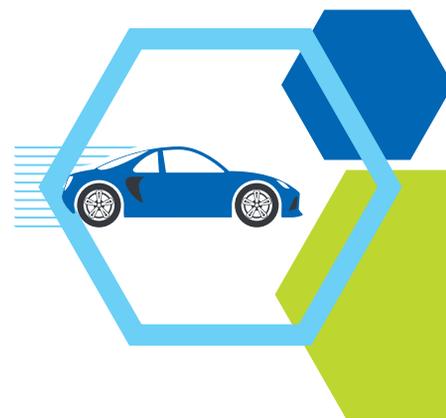
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International Workshop - Agenda

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Does the internal combustion engine have a future?



- 09.00-09.15 **Welcome Address**
Marco Perino - Energy Department, Director
Stefano Paolo Corgnati - Vice Rector Research
- 09.15-10.00 **Opening Keynote**
Kelly Senecal - **Convergent Science**, Owner & Vice President:
"Does the internal combustion engine have a future?"
- 10.00-10.30 **Paolo Pallotti** - **Fiat Chrysler Automobiles**, EMEA Region, Head Powertrain Engine Engineering
"ICE3: Internal Combustion Engine Evolution towards Electrics"
- 10.30-11.00 **Gianmarco Boretto** - **GM Global Propulsion Systems**, Director Diesel Engine Hardware Engineering,
"Electric Propulsion and Internal Combustion Engines: Peaceful Coexistence!"
- 11.00-11.30 **Coffee Break**
- 11.30-12.00 **Carlo Beatrice** - **Istituto Motori - Consiglio Nazionale delle Ricerche**, Senior Scientist,
"Technology review for ICE-based powertrains with 50% brake thermal efficiency"
- 12.00-12.30 **Thomas Körfer** - **FEV GmbH**, Vice President, Business Unit Diesel Powertrains,
"FEV Diesel EMotion – Future Electrified Diesel Powertrains for Heavy Light-Duty Vehicle Applications"
- 12.30-13.15 **Round Table**
Moderator **Giovanni Cipolla** -Automotive Engineering Consultant
- 13.15-14.30 **Lunch Break**
- 14.30-15.00 **Vincenzo Bevilacqua** - **Porsche Engineering Services GmbH**, Senior Expert Engine Analysis:
"Development of a Concept to Achieve Euro 7 Standards for a High-Performance Spark Ignition Engine"
- 15.00-15.30 **Frederic Ravet** - **Renault Center Lardy**, Expert in CFD powertrain
"Internal combustion engine, future and alternatives"
- 15.30-16.00 Speaker TBD, "Title TBD"
- 16.00-16.30 **Internal Combustion Engines PhD Research at Polito Highlights**
- 16.30-17.00 **Closing Remarks**

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