

HIGH PERFORMANCE POWERTRAINS 2018

Institution of
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Automobile Division
Seminar

22 May 2018

Macdonald Burlington Hotel, Birmingham

SEMINAR SPEAKERS INCLUDE:

Rob Millar, Head of Electrical
Williams Advanced Engineering

Paul Freeland, Principal Engineer
Cosworth

Chris Allen, Performance Development
Technical Specialist
Ford Motor Company

Niall Turner, Senior Powertrain
Research Engineer
Jaguar Land Rover Limited

Mike Bassett, Chief Engineer -
Research and Advanced Engineering
MAHLE Powertrain Ltd.

Ken Pendlebury, Director – Gasoline Engines
Ricardo



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SUPPORTING ORGANISATION:



EVENT PARTNERS:



HIGH PERFORMANCE POWERTRAINS 2018

22 May 2018, Macdonald Burlington Hotel, Birmingham

WITH INCREASING PRESSURE FROM GOVERNMENT AND CONSUMERS TO DEVELOP MORE EFFICIENT AND GREENER VEHICLES, DISCOVER HOW ENGINEERS ARE ACHIEVING HIGH PERFORMANCE WHILE ADDRESSING INDUSTRY REGULATIONS, EMISSIONS REDUCTIONS TARGETS AND ENSURING CONTINUED ASSET RELIABILITY AND DURABILITY.

Featuring key presentations from market leaders from the motorsport and automotive industries, this is a unique opportunity to learn about the latest technical developments affecting the high performance powertrain market. Attend to gain key insights about critical areas including electrification, hybridisation, engine downsizing and fuel economy from suppliers and manufacturers.

Create new business contacts, reconnect with established ones and take full advantage of interactive sessions to share your thoughts and learn more about current issues and potential solutions.

KEY PROGRAMME HIGHLIGHTS:

- Find out more about downsizing in the 2000s from **Jaguar Land Rover Limited**
- **Williams Advanced Engineering** discusses electrification-related challenges for high performance vehicles
- Hear from **Ford Motor Company** about developing the 2nd generation 1.0ltr ecoboost
- Discover more about high efficiency motorsport powertrains from **Ricardo**
- Learn how to maintain high specific power output with minimum fuel consumption from **Cosworth**
- Hear about the effect of a high specific output rotary engine in a hybrid sports car application from **University of Bath** and **Advanced Innovative Engineering**

ATTEND THIS SEMINAR TO:

- Hear from market leaders including **Williams Advanced Engineering, Jaguar Land Rover Limited, Ford Motor Company, Ricardo** and **Cosworth**
- Understand how developments in **electrification** and **hybridisation** impact the powertrain
- **Identify solutions** to comply with **emissions reduction** without compromising high performance
- Gain key insights to help you shape your **strategies** and **research investment choices**
- Share your challenges during interactive sessions and bring back to your company valuable **feedback** and **solutions**
- **Network** with key **manufacturers, suppliers** and **researchers** shaping the future of high performance powertrains

ORGANISING COMMITTEE:

Automobile Division
Institution of Mechanical Engineers

MEMBERS CREDITS:

Steve Sapsford, Market Sector Director,
High Performance Vehicles
Ricardo

Jamie Turner, Professor of Engines and Energy
Systems
University of Bath

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**TERMS AND
CONDITIONS
APPLY**

PROGRAMME

TUESDAY 22 MAY 2018	
08:30	REGISTRATION AND REFRESHMENTS
09:00	CHAIR'S OPENING REMARKS Morning Chair: Jamie Turner, Professor of Engines and Energy Systems, University of Bath
INCREASING EFFICIENCY AND FUEL ECONOMY	
09:10	MAINTAINING HIGH SPECIFIC POWER OUTPUT WITH MINIMUM FUEL CONSUMPTION Paul Freeland, Principal Engineer, Cosworth
09:35	LAMBDA 1 OPERATION FOR HIGH PERFORMANCE ENGINES Matthias Neubauer, Lead Engineer High Performance, Development Gasoline Engines and Concept Cars, AVL
10:00	BUSDIG: A HIGH EFFICIENCY 2-STROKE BOOSTED UNIFLOW DIRECT INJECTION GASOLINE ENGINE WITH AIR HYBRID OPERATION Hua Zhao, College Vice Dean (Research) and Director of Centre for Advanced Powertrain and Fuels, Brunel University London Xinyan Wang, Research Assistant, Centre for Advanced Powertrain and Fuels, Brunel University London
10:25	QUESTION AND ANSWER SESSION
10:40	NETWORKING REFRESHMENT BREAK
INNOVATING FOR PERFORMANCE AND EMISSIONS CONTROL	
11:10	HIGH EFFICIENCY MOTORSPORT POWERTRAINS Ken Pendlebury, Director – Gasoline Engines, Ricardo
11:35	HIGH PERFORMANCE POWERTRAIN SOLUTIONS FOR INCREASED POWER OUTPUT AND LOWER EMISSIONS Hartwig Busch, Director Centre for Advanced Low-Carbon Propulsion Systems (C-ALPS), Coventry University
12:00	DEVELOPING THE 2ND GENERATION 1.0LTR ECOBOOST Chris Allen, Performance Development Technical Specialist, Ford Motor Company
12:25	NETWORKING LUNCH
12:25	QUESTION AND ANSWER SESSION Afternoon Chair: Steve Sapsford, Market Sector Director, High Performance Vehicles, Ricardo
13:40	LATEST DEVELOPMENTS OF THE HIGH-SPECIFIC PERFORMANCE MAHLE DI3 ENGINE Mike Bassett, Chief Engineer – Research and Advanced Engineering, MAHLE Powertrain Ltd.
14:05	DOWNSIZING IN THE 2000s Niall Turner, Senior Powertrain Research Engineer, Jaguar Land Rover Limited
14:30	TOWARDS ULTIMATE EMISSIONS REDUCTION AND EFFICIENCY IMPROVEMENT Yannis Hardalupas, Professor of Multiphase Flows, Imperial College London
14:55	QUESTION AND ANSWER SESSION
15:10	NETWORKING REFRESHMENT BREAK
ELECTRIFICATION, HYBRIDIZATION AND ASSOCIATED CHALLENGES	
15:40	EFFECT OF HIGH SPECIFIC OUTPUT ROTARY ENGINE IN HYBRID SPORTS CAR APPLICATION Thomas Lee, Programme Manager, Advanced Innovative Engineering Matt Turner, Research Assistant, University of Bath
16:05	ELECTRIFICATION – CHALLENGES FOR HIGH PERFORMANCE VEHICLES Rob Millar, Head of Electrical, Williams Advanced Engineering
16:30	QUESTION AND ANSWER SESSION
16:40	PANEL DISCUSSION: LOOKING TO THE FUTURE OF HIGH PERFORMANCE POWERTRAINS Chair: Steve Sapsford, Market Sector Director, High Performance Vehicles, Ricardo Jamie Turner, Professor of Engines and Energy Systems, University of Bath Rob Millar, Head of Electrical, Williams Advanced Engineering Hartwig Busch, Director Centre for Advanced Low-Carbon Propulsion Systems (C-ALPS), Coventry University Yannis Hardalupas, Professor of Multiphase Flows, Imperial College London <ul style="list-style-type: none"> • What are the future challenges affecting high performance powertrains? • How can the government support the auto industry? • Where is research funding going to be invested?
17:20	CHAIR'S CLOSING REMARKS Afternoon Chair: Steve Sapsford, Market Sector Director, High Performance Vehicles, Ricardo
17:25	END OF SEMINAR

For the most up-to-date and detailed programme for the event, please visit www.imeche.org/hpp2018

- This programme is subject to change.
- The Institution is not responsible for the views or opinions expressed by individual speakers.

HOW TO BOOK YOUR PLACE

FEES AND CHARGES

Registration fees include entry to the sessions, refreshments and a copy of the conference proceedings.

Seminar and Workshop	Early Bird Rate Until 30 March 2018	Standard Rate
Member, IMechE/supporting organisation	£280 + VAT = £336	£320 + VAT = £384
Non-member	£390 + VAT = £468	£430 + VAT = £516
Student/Retired	£90 + VAT = £108	£100 + VAT = £120

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THREE WAYS TO BOOK

- 1 Online:
www.imeche.org/hpp2018
- 2 Email:
eventenquiries@imeche.org
- 3 Phone:
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Please read the information listed below as each booking is subject to the Institution's standard terms and conditions.

CONDITIONS OF BOOKING

Completed application forms should be returned to the address above, along with the correct payment. Attendance at the event will be confirmed on receipt of the full balance. All participants are advised to bring a copy of their confirmation with them on the day, to ensure the fastest possible entry.

SPECIAL REQUIREMENTS

Please inform us of any special requirements, ie dietary or access, on the relevant section of this form.

CANCELLATION

For a refund (minus £25+VAT admin charge), cancellations must be received at least 30 days prior to the event. Replacement delegates are welcome at any time. The Institution reserves the right to cancel any event. In this case, the full fee will be refunded unless a mutually convenient transfer can be arranged. In the event that the Institution postpones an event for any reason and the delegate is unable or unwilling to attend on the rescheduled date, they will receive a full

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Please note that while speakers and topics were confirmed at the time of publishing, circumstances beyond the control of the organisers may necessitate substitutions, alterations or cancellations of the speakers and/or topics. The Institution reserves the right to alter or modify the advertised speakers and/or topics if necessary without any liability to you whatsoever. Any substitutions or alterations will be updated on the event's webpage as soon as possible.

LIABILITY

The organisers do not accept liability for any injuries or losses of any nature incurred by delegates and/or accompanying persons, nor for loss or damage to their luggage and/or personal belongings.

CONFERENCE VENUE

Macdonald Burlington Hotel
Burlington Arcade
126 New Street
Birmingham
B2 4JQ

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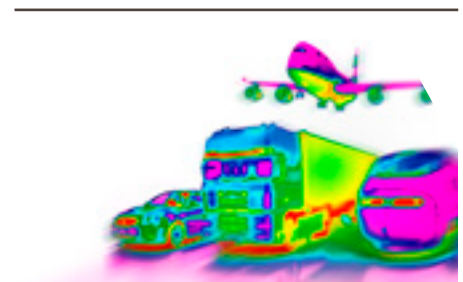


NOISE, VIBRATION AND HARSHNESS 2018

22 May 2018, Birmingham

Join to address the challenges in design, measurement and analysis of noise, vibration and harshness across complex systems

www.imeche.org/NVH2018



THERMAL ENGINEERING FOR TRANSPORT

13 June 2018, Midlands

This seminar will explore how thermal engineers are ensuring vehicles are meeting expectations to dramatically improve efficiency whilst keeping costs low.

www.imeche.org/thermalengineering

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