

11TH INTERNATIONAL CONFERENCE ON TURBOCHARGERS AND TURBOCHARGING.

Institution of
**MECHANICAL
ENGINEERS**

Combustion Engines & Fuels Group
Conference

13–14 May 2014
London
www.imeche.org/events/C1384

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INTRODUCTION

Legislation and environmental trends for reducing CO₂ and fuel consumption are the major market forces in the land transport industry today. The internal combustion engine is the key product and downsizing, efficiency and economy are the driving forces for development for both spark ignition (SI) and compression ignition (CI) engines.

The future market forces and environmental considerations in the passenger car and commercial vehicle sector mean more stringent engine downsizing is far more prevalent. Therefore, novel systems are required to provide boosting solutions including hybrid, electric-motor and exhaust waste energy recovery systems for high efficiency, response, reliability, durability and compactness.

For large engines, the big challenge is to enhance the high specific power and efficiency, whilst

reducing emission levels (NO_x and SO_x) with variable quality fuels. This will require turbocharging systems for very high boost pressure, efficiency and a high degree of system flexibility.

This international conference is the latest in the highly successful and prestigious series held regularly since 1978. It will cover all current and novel aspects of turbocharging systems design and boosting solutions for engine downsizing and improvements in efficiency.

THIS EVENT WILL ATTRACT:

- Experts in turbocharging and supercharging
- Vehicle OEMs
- Engine manufacturers
- Component suppliers
- Consultants
- Academics and students

TECHNICAL ADVANTAGES:

- Study advances in 1D simulation and validation
- Enhance your systems' transient response
- Learn ways to reduce turbine fatigue
- Find out about new methods to improve turbine unsteady flow
- Network with experts from industry and academia

WHEN

13–14 May 2014

WHERE

The British Museum, Great Russell Street, London WC1B 3DG

BOOK ONLINE

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MEDIA PARTNERS



SPONSORSHIP & EXHIBITION OPPORTUNITIES

GET INVOLVED

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This is an excellent way to enhance your company profile and communicate effectively to your target audience.

BENEFITS OF SPONSORING

- Showcase new products
- Raise awareness of your operation
- Improve perception of your brand
- Influence other organisations' spending plans

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PROGRAMME

| PROGRAMME | | |
|--|---------------------|---|
| DAY 1 | TUESDAY 13 MAY 2014 | |
| SESSION 1: NOVEL APPLICATIONS; SI ENGINES | 09:00 | REGISTRATION AND REFRESHMENTS |
| | 09:30 | CHAIRMAN'S WELCOME Dr K Banisoleiman, Principal Consultant – Marine, Lloyd's Register |
| | 09:35 | KEYNOTE PRESENTATION Brett Hinds, Chief Engineer – Engine Design, Ford Europe |
| | 10:00 | COOL2POWER – EXTENDING THE BOOST LINE OF A PASSENGER CAR SI-ENGINE USING THE AC-SYSTEM FOR INTERCOOLING S Kadunic, R Baar, TU Berlin; F Scherer, Bundesanstalt für Materialprüfung und -Forschung (BAM); I Friedrich, IAV GmbH, Germany |
| | 10:20 | ASSESSMENT OF THE SUPERCHARGING BOOSTING COMPONENT FOR HEAVILY DOWNSIZED GASOLINE ENGINES A Romagnoli, W Bin Wan-Salim, B A Gurunathan, R F Martinez-Botas, Imperial College London, UK; J W G Turner, N Luard, Powertrain Research and Technology, Jaguar Land Rover Limited, UK; R Jackson, L Matteucci, Lotus Engineering, UK; C J Brace, S Akehurst, A G J Lewis, C Copeland, University of Bath, UK |
| | 10:50 | Q&A WITH PANEL SPEAKERS |
| | 11:05 | REFRESHMENT BREAK & EXHIBITION |
| | 11:25 | SPLIT EXHAUST PERIOD FOR EXTREMELY DOWNSIZED TURBOCHARGED SI ENGINE B Hu, C Brace, S Akehurst, C Copeland, University of Bath; J W G Turner, Jaguar Land Rover Limited, UK |
| | 11:45 | ADVANCED BOOSTING TECHNOLOGIES FOR FUTURE SI ENGINES CONCEPTS P Grigoriadis, L Böttcher, E Binder, M Sens, IAV GmbH, Germany |
| | 12:05 | Q&A WITH PANEL SPEAKERS |
| | 12:20 | LUNCH & EXHIBITION |
| SESSION 2: PARALLEL SESSIONS | | <div> SESSION 2A: COMPRESSOR DESIGN (CFD) </div> <div> SESSION 2B: ADVANCED SIMULATION 1D, HEAT TRANSFER AND MULTIBODY OPTIMISATION </div> |
| | 13:35 | <div> DESIGN AND TESTING OF A TRANSONIC MIXED FLOW COMPRESSOR FOR EXTREME COMPRESSOR DUTY H R Hazby, PCA Engineers Ltd, UK; M V Casey PCA Engineers Ltd, UK & Institute of Thermal Turbomachinery (ITSM), University of Stuttgart, Germany; R Numakura, Turbo Machinery and Engine Technology Department, IHI Corporation, Japan; H Tamaki Corporate Research and Development, IHI Corporation, Japan </div> <div> MODELLING OF TURBOCHARGER HEAT TRANSFER UNDER STATIONARY AND TRANSIENT ENGINE OPERATING CONDITIONS R D Burke, Department of Mechanical Engineering, University of Bath, UK; P Olmeda, F J Arnau, M Reyes-Belmonte, CMT – Motores Térmicos, Universitat Politècnica de València, Spain </div> |
| | 13:55 | <div> AERODYNAMIC DESIGN OPTIMISATION OF CENTRIFUGAL COMPRESSOR IMPELLER BASED ON ARTIFICIAL NEURAL NETWORK AND GENETIC ALGORITHMS S Ibaraki, Mitsubishi Heavy Industries Ltd, Japan; R Van den Braembussche, T Verstraete, Z Alsalihi, von Karman Institute for Fluid Dynamics, Belgium; K Sugimoto, I Tomita, Mitsubishi Heavy Industries Ltd, Japan </div> <div> A ONE-DIMENSIONAL PERFORMANCE MODEL FOR TURBOCHARGER TURBINE UNDER PULSATING INLET CONDITION H Chen, National Laboratory of Engine Turbocharging Technologies, China; D E Winterbone, Formally UMIST, UK </div> |
| | 14:15 | <div> A NEW OPERATING RANGE ENHANCEMENT DEVICE COMBINED WITH A CASING TREATMENT AND INLET GUIDE VANES FOR CENTRIFUGAL COMPRESSORS I Tomita, B An, T Nanbu, Mitsubishi Heavy Industries Ltd, Japan </div> <div> A ONE-DIMENSIONAL ANALYTICAL CODE FOR THE DESIGN AND MULTI-OBJECTIVE OPTIMISATION OF HIGH PRESSURE COMPRESSORS WITHIN TWO-STAGE TURBOCHARGERS FOR MARINE APPLICATIONS O F Okhuaesogie, J Stewart, M J W Riley, School of Engineering, University of Lincoln, UK; F Heyes, P Roach, Napier Turbochargers Ltd, UK </div> |
| | 14:45 | <div> INLET RECIRCULATION IN AUTOMOTIVE TURBOCHARGER CENTRIFUGAL COMPRESSORS P X L Harley, S W T Spence, J Early, School of Mechanical & Aerospace Engineering, Queen's University Belfast, UK; D Filsinger, M Dietrich, IHI Charging Systems International GmbH, Germany </div> <div> IMPROVEMENT OF A GASOLINE TURBOCHARGER BY-PASS VALVE L Toussaint, M Marques, N Morand, P Davies, C Groves, Honeywell, France; F Tomanec, M Zatko, D Vlachy, R Mrazek, Honeywell, Czech Republic </div> |
| | 15:05 | Q&A WITH PANEL SPEAKERS |
| | 15:25 | REFRESHMENT BREAK & EXHIBITION |

PROGRAMME (CONTINUED)

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| SESSION 3: PARALLEL SESSIONS | 16:10 | SESSION 3A: TRANSIENT RESPONSE EXPERIMENTAL AND ANALYTICAL INVESTIGATION OF IMPLEMENTING A BALL BEARING TURBOCHARGER ON A PRODUCTION DIESEL ENGINE Q Zhang, T Duda, R Burke, S Akehurst, C Brace, University of Bath, UK; G Capon, P Dowell, Ford Motor Company, UK; P Davies, Honeywell, France | SESSION 3B: TURBOCOMPOUND AND 2-STAGE THE EXHAUST ENERGY UTILISATION OF A TURBOCOMPOUND ENGINE COMBINED WITH DIVIDED EXHAUST PERIOD H Aghaali, HE Ångström, KTH - Royal Institute of Technology, CCGEx, Internal Combustion Engines, Sweden |
| | 16:30 | TWO-CYLINDER ENGINE EXHAUST SYSTEM DESIGN J J Dalby, J B Wray, J D Mullineux, A Ward, Ricardo, UK; C M Meano, A Racca, General Motors Powertrain – Europe S.r.l. (GMPTE), Italy | FURTHER DEVELOPMENT OF TWO STAGE TURBOCHARGING SYSTEMS FOR LARGE ENGINES E Codan, C Christen, ABB Turbo Systems Ltd, Switzerland |
| | 16:50 | OPTIMISATION OF TRANSIENT RESPONSE OF A GASOLINE ENGINE WITH A VARIABLE GEOMETRY TURBINE TURBOCHARGER H Tang, S Akehurst, C J Brace, University of Bath, UK; S Garrett, Cummins Turbo Technologies Limited, UK; L Smith, Jaguar Land Rover Limited, UK | PANEL DISCUSSION |
| | 17:10 | Q&A WITH PANEL SPEAKERS | |
| | 17:30 | CLOSE OF DAY ONE | |
| | 19:00 | CONFERENCE DINNER The conference dinner will be held at the Grand Connaught Rooms. Attendees will enjoy a drinks reception followed by a three-course meal, while reflecting on the day. Delegates must register in advance on the registration form. An additional charge applies, places are limited. Sponsored by Honda. | |
| | |  | |
| DAY 2 | | WEDNESDAY 14 MAY 2014 | |
| SESSION 4: NOVEL APPLICATIONS: EURO 6 AND ELECTRIC ASSIST | 09:00 | KEYNOTE ADDRESS Prof. Dr. Gunnar Stiesch, Vice President, Advanced Engineering Four-Stroke, MAN Diesel & Turbo SE | |
| | 09:25 | ELECTRICAL SUPERCHARGING FOR FUTURE DIESEL POWERTRAIN APPLICATIONS P Newman, N Luard, S Jarvis, S Richardson, Jaguar Land Rover Limited, UK; T Smith, R Jackson, Lotus Cars Limited, UK; C Rochette, D Lee, M Criddle, Valeo Air Management UK Limited, UK | |
| | 09:45 | ELECTRICALLY ASSISTED TURBOCHARGER AS AN ENABLING TECHNOLOGY FOR IMPROVED FUEL ECONOMY IN NEW EUROPEAN DRIVING CYCLE OPERATION T Suzuki, Y Hirai, N Ikeya, IHI corporation, Japan | |
| | 10:05 | DEVELOPMENT OF A HIGH EFFICIENCY COMMERCIAL-DIESEL TURBOCHARGER SUITED TO POST EURO VI EMISSIONS AND FUEL ECONOMY LEGISLATION J Watson, R Lotz, D Grabowska, J Moschetti, T House, S Scott, R Vemula, BorgWarner Turbo Systems, USA | |
| | 10:30 | ADVANCED BOOSTING TECHNOLOGY REQUIRED TO MEET FUTURE HDD CO2 LEGISLATION A Banks, R Cornwell, Ricardo UK Ltd, UK | |
| | 10:45 | Q&A WITH PANEL SPEAKERS | |
| | 11:10 | REFRESHMENT BREAK & EXHIBITION | |
| SESSION 5: PARALLEL SESSIONS | 11:40 | SESSION 5A: TURBOCHARGER GAS STAND RECOMMENDED PRACTICES FOR CONTEMPORARY TURBOCHARGER GAS STAND TESTING J B Schwarz, D N Andrews, BorgWarner Turbo Systems – North American Technical Center Arden, USA | SESSION 5B: BURST CONTAINMENT AND WASTEGATE MATERIALS CONTAINMENT SIMULATION AND VALIDATION OF TURBOCHARGER HOUSING DESIGN J M Ramamoorthy, S S Parikh, S Pandian, P S Kasthuri Rangan, Turbo Energy Limited, India |
| | 12:00 | CRITICAL ASPECTS IN TURBOCHARGER TESTING H Bolz, Kratzer Automation AG, A Rinaldi, CRITT M2A, A Kaufmann, Hochschule Weingarten, Germany | THE HIGH TEMPERATURE TRIBOLOGICAL PERFORMANCE OF TURBOCHARGER WASTEGATE MATERIALS M Burkinshaw, D Blacker, Cummins Turbo Technologies, UK |
| | 12:20 | Q&A WITH PANEL SPEAKERS | |
| | 12:40 | LUNCH & EXHIBITION | |

PROGRAMME (CONTINUED)

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|---|--------------|---|---|
| SESSION 6: PARALLEL SESSIONS | 13:40 | SESSION 6A: TURBINE; UNSTEADY FLOW ENGINE CRANK ANGLE RESOLVED TURBOCHARGER TURBINE PERFORMANCE MEASUREMENTS BY CONTACTLESS SHAFT TORQUE DETECTION B Lüddecke, D Filsinger, IHI Charging Systems International GmbH; M Bargende, Universität Stuttgart, Germany | SESSION 6B: ROTOR DYNAMICS EXPERIMENTAL AND NUMERICAL INVESTIGATIONS ON AN AUTOMOTIVE TURBOCHARGER WITH A TRANSPARENT BEARING SECTION W Köhl, Technische Universität Darmstadt, Institute of Structural Dynamics; M Kreschel, IHI Charging Systems International GmbH; D Filsinger, IHI Charging Systems International GmbH, Germany AN ANALYTICAL INVESTIGATION OF TURBOCHARGER ROTOR-BEARING DYNAMICS WITH ROLLING ELEMENT BEARINGS AND SQUEEZE FILM DAMPERS A Ashtekar, Cummins Turbo Technologies, USA; L Tian, C Lancaster, Cummins Turbo Technologies, UK PREDICTIONS FOR RUN-UP PROCEDURES OF AUTOMOTIVE TURBOCHARGERS INCLUDING THERMAL EFFECTS AND DIFFERENT BEARING SETUPS D Vetter, T Hagemann, H Schwarze, Institute of Tribology and Energy Conversion Machinery, Technical University of Clausthal, Germany |
| | 14:00 | PERFORMANCE AND FLOW-FIELD ASSESSMENT OF AN EGR PULSE OPTIMISED ASYMMETRIC DOUBLE-ENTRY TURBOCHARGER TURBINE M Sakai, A Romagnoli, R Martinez-Botas, Department of Mechanical Engineering, Imperial College London, UK | |
| | 14:20 | COMPARISON OF THE INFLUENCE OF UNSTEADINESS BETWEEN NOZZLED AND NOZZLELESS MIXED FLOW TURBOCHARGER TURBINES M Y Yang, R Martinez-Botas, Imperial College London, UK; M H Padzillah, Imperial College London, UK & Universiti Teknologi, Malaysia; W L Zhuge, Tsinghua University, China | |
| | 14:40 | Q&A WITH PANEL SPEAKERS | |
| | 15:00 | REFRESHMENT BREAK & EXHIBITION | |
| | | | |
| SESSION 7: PARALLEL SESSIONS | 15:30 | SESSION 7A: TURBINE DESIGN (CFD) STUDY ON UNSTEADY AERODYNAMIC EXCITATION FORCES ON RADIAL TURBINE BLADES DUE TO ROTOR-STATOR INTERACTION W Sato, A Yamagata, H Hattori, IHI Corporation, Japan | SESSION 7B: BEARING MODELS THERMAL ANALYSIS OF SMALL HIGH-SPEED FLOATING-RING JOURNAL BEARINGS D Porzig, H Schawrz, Technical University of Clausthal; H Raetz, J R Seume, Leibniz Universität Hannover, Germany STABILITY ANALYSIS OF PRESSURISED GAS FOIL BEARINGS FOR HIGH-SPEED APPLICATIONS R Hoffmann, T Pronobis, R Liebich, Berlin Institute of Technology, Germany THE MODIFIED PHAN-THIEN AND TANNER MODEL APPLIED TO TURBOCHARGERS THRUST BEARING B Remy, Honeywell; T Lamquina, B Bou-Saïd, Université de Lyon, France |
| | 16:10 | 3D INVERSE DESIGN-BASED MULTIDISCIPLINARY OPTIMISATION ON THE RADIAL AND MIXED-INFLOW TURBINE FOR TURBOCHARGERS J Zhang, M Zangeneh, University College London, UK; P Eynon, Cummins Turbo Technologies, UK | |
| | 16:30 | NUMERICAL INVESTIGATION ON THE HIGH-CYCLE PRESSURE FLUCTUATION MECHANISM OF VNT ROTOR X Shi, C Yang, Y H Liu, S T Liu, B Zhao, Beijing Institute of Technology, China | |
| | 16:50 | Q&A WITH PANEL SPEAKERS | |
| | 17:15 | CHAIRMAN'S CLOSING COMMENTS IN LECTURE THEATRE | |
| | 17:30 | CLOSE OF CONFERENCE | |

Find out more about our speakers at: www.imeche.org/events/C1384

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

Combustion Engines & Fuels Group Organising Committee:

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Takashi Otake, Honda

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Dr Les Smith, Jaguar Land Rover

Prof Stephen Spence, Queens University Belfast

Bernd Wietholt, Volkswagen

2ND WORKSHOP ON ENGINE DOWNSIZING AND TURBOCHARGING

Imperial College
London

| | |
|------------------|--|
| WHEN | 15 May 2014 |
| WHERE | Imperial College London, Exhibition Road, London SW7 2AZ |
| MORE INFO | www.imeche.org/events/C1384 |

This one-day workshop is designed to enable individuals to gain an understanding of the principles and challenges associated with boosting downsized engines.

Aimed at those whose role includes the design, selection and development of air management systems, it will expand your understanding of the fundamental issues related with turbocharging technology.

As part of the course, all delegates will be invited to visit the Imperial College test facility where they will have the opportunity to learn about state-of-the-art experimental methods for boosting technology.

Places are limited, so book early to avoid disappointment.

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REGISTRATION FEE

**WHEN REGISTERING
FOR BOTH THE
CONFERENCE AND
WORKSHOP**

Register online at:
www.imeche.org/events/C1384
or see booking form for details.

TRAINERS

- Prof Ricardo Martinez-Botas
 - Dr Aaron Costall
 - Dr Mingyang Yang
 - Dr Colin Copeland
 - Dr Apostolos Pesiridis
- all affiliated to the Imperial College London Turbocharger Research Group

www.imperial.ac.uk/turbochargers

AGENDA

Depending on the number and background of attendees, the workshop can be tailored to specific requirements. A detailed agenda will be sent out ahead of the workshop.

MORE INFORMATION

Please contact:
Dr Aaron Costall
Email: a.costall@imperial.ac.uk

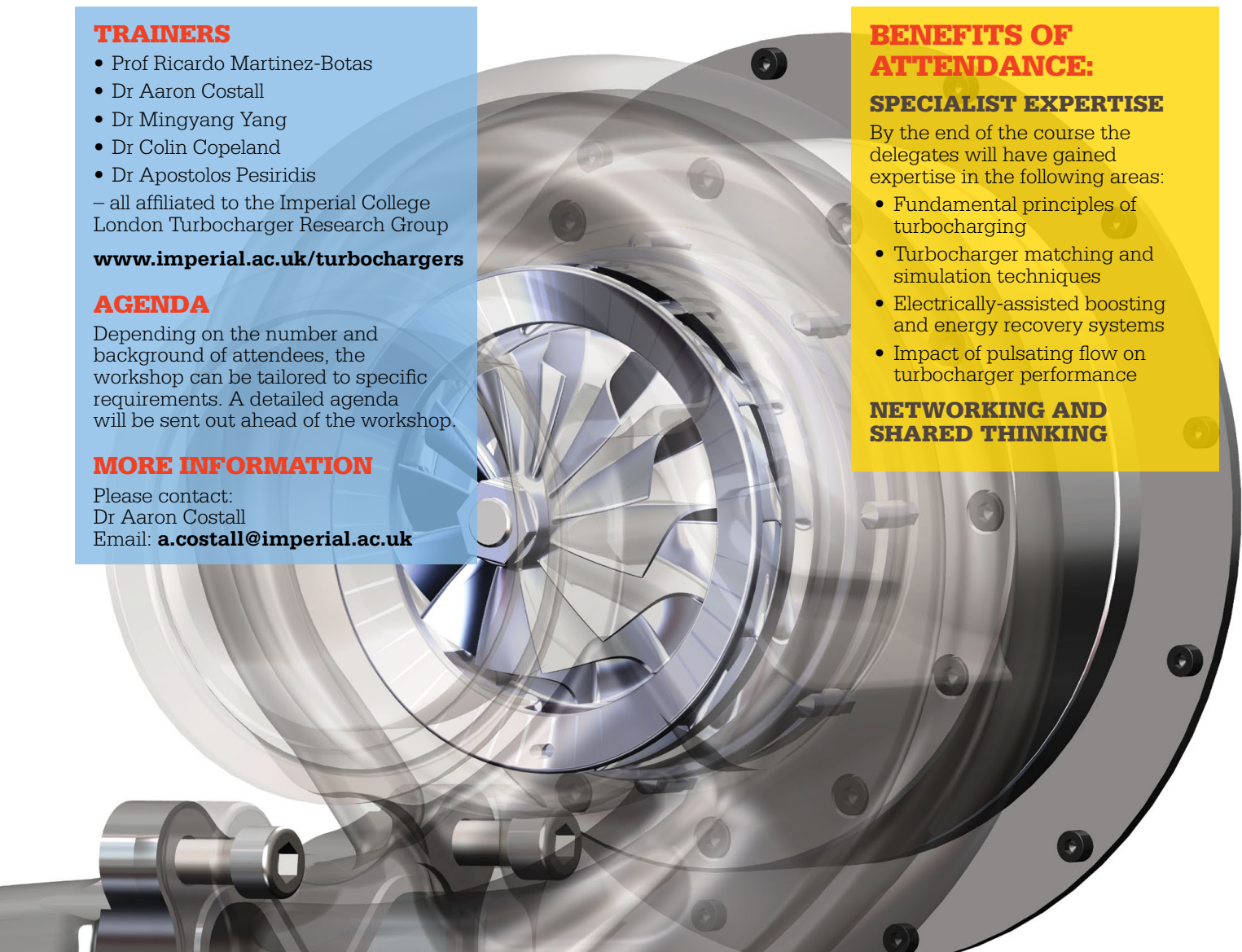
BENEFITS OF ATTENDANCE:

SPECIALIST EXPERTISE

By the end of the course the delegates will have gained expertise in the following areas:

- Fundamental principles of turbocharging
- Turbocharger matching and simulation techniques
- Electrically-assisted boosting and energy recovery systems
- Impact of pulsating flow on turbocharger performance

NETWORKING AND SHARED THINKING



BOOKING FORM

COMBUSTION ENGINES & FUELS GROUP
11TH INTERNATIONAL CONFERENCE ON
TURBOCHARGERS AND TURBOCHARGING
13–14 MAY 2014
REFERENCE CODE: C1384AB

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| Do you have any special requirements? | |
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How did you hear about this event? ☐ Direct mail ☐ Website ☐ Colleague ☐ Other

FEES AND CHARGES Please complete the appropriate box.

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

| | EARLY BIRD RATE BEFORE 4 APRIL 2014 | STANDARD RATE FROM 4 APRIL 2014 | TOTAL |
|---|--|------------------------------------|-------|
| Member/supporting organisation conference only | £610 + VAT Save £90 | £700 + VAT | £ |
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| Presenting author conference only | £300 + VAT Save £100 | £400 + VAT | £ |
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| Non-member conference & workshop | £1166 + VAT incl. 15% discount | £1246 + VAT incl. 15% discount | £ |
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| Student/retired conference & workshop | £622 + VAT incl. 15% discount | £672 + VAT incl. 15% discount | £ |
| Conference dinner (delegate) | £25 + VAT | £25 + VAT | £ |
| Conference dinner (guest) | £80 + VAT | £80 + VAT | £ |
| Invoice charging (if applicable) | £10 + VAT | £10 + VAT | £ |

Receive a 15% discount on registration fees when attending both the conference and the workshop (see page 6 for details).

Please contact our enquiry team on +44 (0)20 7973 1258 or email eventenquiries@imeche.org

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Payment must accompany this registration form. Registration will be confirmed only on receipt of full payment.

Please indicate method of payment: ☐ Cheque ☐ Credit Card ☐ BACS ☐ Invoice (see below)

Cheques should be made payable to IMechE and crossed. Please note international delegates may pay only by credit card, BACS or banker's draft. A copy of the draft must accompany this form. It is the delegate's responsibility to pay any bank charges.

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| Name of Cardholder | | | | |
| Billing Address of Cardholder (if different from above) | | | | |
| Postcode | | | | |
| Amount to be Deducted | Signature | | | |

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A copy of the draft must accompany this form.
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EVENT REGISTRATIONS
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Fax +44 (0)20 7222 9881

For registration enquiries call
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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 14 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 refund of the fee paid.

The Institution is not responsible for any loss or damage as a result of a substitution, alteration or cancellation/postponement of an event. The Institution shall assume no liability whatsoever if this event is cancelled, rescheduled or postponed due to a fortuitous event, Act of God, unforeseen occurrence or any other event that renders performance of this conference impracticable, illegal or impossible. For purposes of this clause, a fortuitous event shall include, but not be limited to: war, fire, labour strike, extreme weather or other emergency.

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. As such, 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.

SUPPORTING ORGANISATIONS

See list on page 2.

VENUE

This event will be held at The British Museum, Great Russell Street, London WC1B 3DG

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.

ACCOMMODATION

Quote ID number
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OTHER EVENTS TO LOOK FOR:

1 May 2014
Coventry

CAN GREEN BE FAST AND FUN? IMPLEMENTING LOW CARBON TECHNOLOGIES IN HIGH PERFORMANCE VEHICLES

This seminar will address the conundrum of global warming and the ongoing assault on "gas guzzling" vehicles and their CO₂ emissions. The seminar will provide positive solutions that can be applied to the mainstream automotive market that will benefit the entire industry.

www.imeche.org/events/S1814

25–26 June 2014
Nuneaton

THE ROUTE TO AUTONOMOUS VEHICLES

Presenting knowledge from the forefront of technology, this seminar will help people in the industry to understand the current development and future potential of automated technology in the automobile industry.

www.imeche.org/events/S1815

11 September 2014,
London

GASEOUS FUELS FOR ROAD VEHICLES

Examining the application and use of gaseous fuels in vehicles, delegates will be able to explore the different types of gases that can be used as fuels, and gain an insight into the benefits that gaseous fuels have over traditional liquid fuels.

www.imeche.org/events/S1807

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GET INVOLVED

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See www.imeche.org/volunteering for more information or go to <http://nearyou.imeche.org> to find engineering events hosted by volunteers in your area.



Continuing Professional Development (CPD)

As part of your professional registration and membership of the Institution of Mechanical Engineers and the Engineering Council, it's your responsibility to keep your skills up-to-date.

Our online Career Developer tool can help you:

- **Plan** Create an Action Plan and identify targets
- **Record** Download a record of your learning activities
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