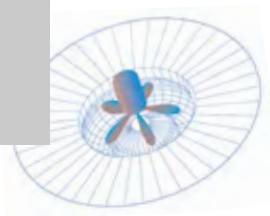


FINAL PROGRAMME

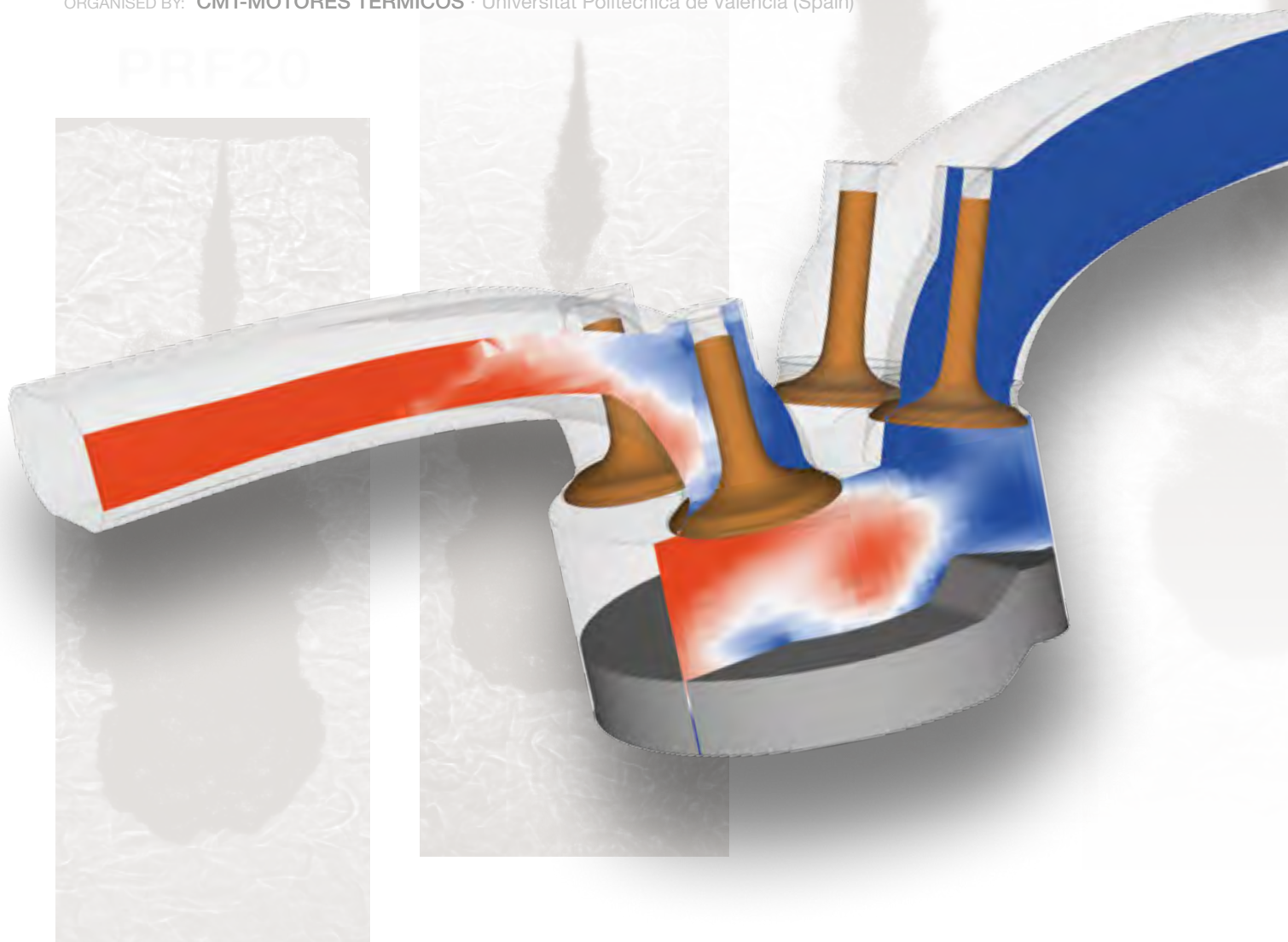


THIESEL 2016

**Conference on Thermo-and Fluid Dynamic
Processes in Direct Injection Engines**

**13th-16th
September
2016
Valencia (Spain)**

ORGANISED BY: CMT-MOTORES TÉRMICOS · Universitat Politècnica de València (Spain)



UNIVERSITAT
POLITÈCNICA
DE VALÈNCIA



En septiembre, la Universitat Politècnica de València comienza un nuevo curso académico y este año 2016 tiene el honor de acoger en su campus universitario la novena edición del **Congreso Internacional THIESEL**. Me corresponde la gratificante tarea de realizar la presentación del congreso único a nivel mundial, que apenas precisa de presentación, pues desde sus comienzos, en el año 2000, ha ido creciendo en relevancia y prestigio. La calidad de sus ponencias de perspectiva internacional le otorga la consideración de encuentro de excelencia en cuanto a automoción se refiere.

El **Congreso Internacional THIESEL 2016** cuenta con la intervención clave de ponentes con una reputada trayectoria científica, académica y profesional de todo el mundo. A los asistentes al congreso, les transmito la cálida bienvenida a la Universitat Politècnica de València, deseando que el encuentro les resulte del todo provechoso y que disfruten de su estancia en Valencia.

Deseo resaltar del Congreso THIESEL la expectación que produce su completo programa y la cuantiosa participación proveniente del sector industrial, de la universidad y de centros de investigación, con el objetivo común de compartir los últimos avances científicos y las innovaciones más eficientes, que mejoren el rendimiento de combustible y reduzcan las emisiones contaminantes de los motores de inyección directa.

El programa de la presente edición presta una especial atención tanto a los procesos convencionales de combustión por inyección, como a los modelos avanzados. Además, se pondrán de manifiesto las novedosas soluciones de hardware para mejorar la eficacia de la combustión, así como los combustibles emergentes y los sistemas de su abastecimiento. La normativa sobre emisión de contaminantes y las posibles lagunas legislativas en esta materia, serán también tema de debate.

Deseo felicitar al grupo de docentes e investigadores del **Instituto CMT-Motores Térmicos** de la **Universitat Politècnica de València**, por la notoriedad que ha alcanzado el Congreso THIESEL y por el éxito que obtiene, fruto de la gran labor de organización que conlleva su celebración. A todos ellos, expreso mi sincera enhorabuena y reconocimiento <

Francisco José Mora Mas

RECTOR DE LA UNIVERSITAT POLITÈCNICA DE VALÈNCIA
RECTOR OF THE UNIVERSITAT POLITÈCNICA DE VALÈNCIA

In September, the Universitat Politècnica de València will begin a new academic year and this year, 2016, it will have the privilege of holding the ninth edition of the **International Conference THIESEL** on its university campus. I have the rewarding task of presenting this unique conference on a worldwide scale, which in fact hardly needs a presentation, as from its beginning in the year 2000 it has grown steadily in relevance and prestige. The quality of its papers of international outlook marks it as a meeting of excellence as far as the automotive industry is concerned.

The **International Conference THIESEL 2016** includes the key interventions of speakers from all over the world with a renowned scientific, academic and professional career. On behalf of the Universitat Politècnica de València, I convey a warm welcome to all the guests attending the conference, wishing them a fruitful conference and enjoyable stay in Valencia.

I would like to highlight the expectations incited by the THIESEL conference full programme and the extensive participation from the industrial sector, the University and the Research Centres, with the common objective of sharing the latest scientific advances and the most productive innovations that will improve fuel efficiency and reduce the emission of pollutants from direct injection engines.

The programme of this current edition pays special attention to the conventional processes of injection and combustion, as well as to the more advanced concepts. In addition, the newest hardware solutions to improve combustion efficiency, as well as the newest fuels and their supply systems are brought to light. The regulations on pollutant emissions and the possible legislative loopholes on this issue will also be topics for debate.

I wish to congratulate the group of lecturers and researchers from the **CMT-Thermal Engines University Institute** at the **Universitat Politècnica de València** for the renown achieved by the THIESEL conference and for its success, both fruit of the great organizational work required for it to take place. I express my sincere congratulations and my appreciation to everyone involved <

OVERVIEW & OBJECTIVES

The **THIESEL 2016 Conference on Thermo-and Fluid Dynamic Processes in Direct Injection Engines** is the ninth edition of this conference and it has gained a consolidated position as a meeting point between industry, research institutions and academia involved in R&D for automotive engines.

Its main objective remains unchanged since its first edition in 2000, namely present the latest developments for the adaption of the automotive internal combustion engine to new environmental challenges.

It is generally agreed that the internal combustion engine will remain the main propulsion system for vehicles in the next 20 to 30 years and furthermore, will remain present even in hybrid and electrified vehicles.

But it is also recognized that environmental issues are of paramount importance to future engine generations and these may only be solved through innovation.

Innovation, however, calls for important research efforts, and requires the exchange of valuable knowledge and experience between the main actors of the automotive R&D sector.

THIESEL 2016 aims at providing Academia researchers and Industry developers the ideal setting for these high tech exchanges <

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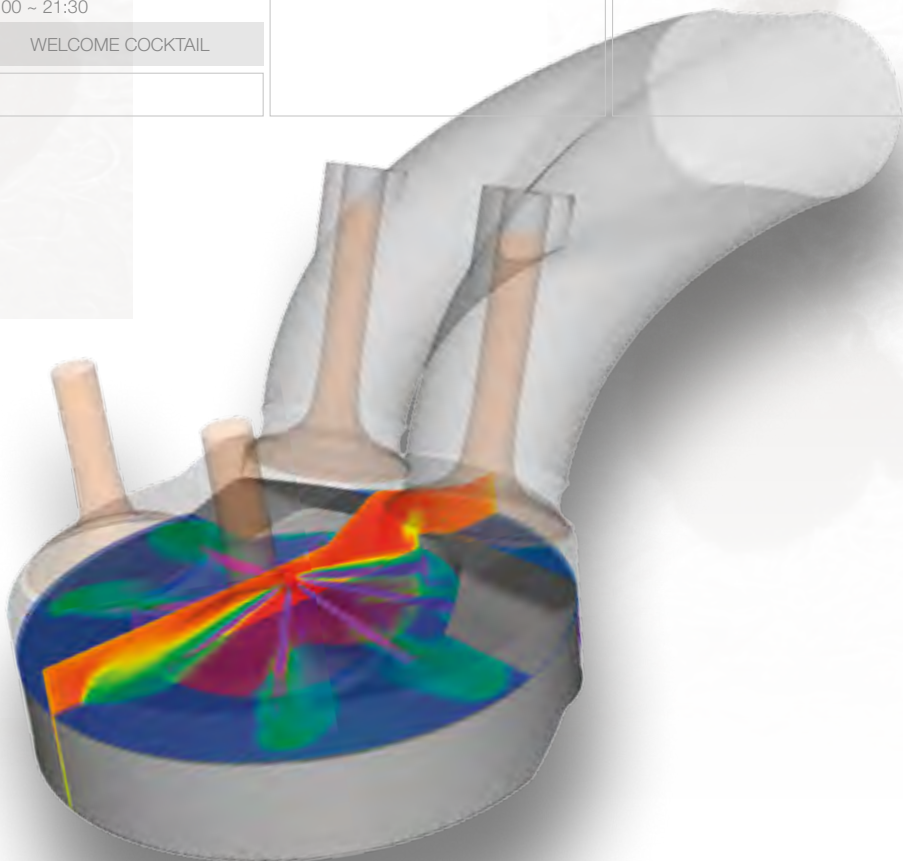
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> Dr. W. ZHUGE	Tsinghua University (China)

SESSION MATRIX

Tuesday · SEPT 13th	Wednesday · SEPT 14th	Thursday · SEPT 15th	Friday · SEPT 16th
	07:30 ~ 08:30 CONFERENCE REGISTRATION		
	08:30 ~ 10:30 SESSION A.1. Fuel Injection & Sprays (I)	08:30 ~ 10:30 SESSION C.1. Combustion (I)	08:30 ~ 10:30 SESSION E.1. Turbocharging
	10:30 ~ 11:00 COFFEE BREAK	10:30 ~ 11:00 COFFEE BREAK	10:30 ~ 11:00 COFFEE BREAK
	11:00 ~ 13:00 SESSION A.2. Fuel Injection & Sprays (II)	11:00 ~ 13:00 SESSION C.2. Combustion (II)	11:00 ~ 13:00 SESSION F.1. Experimental Methodologies
	13:00 ~ 15:30 LUNCH	13:00 ~ 15:30 LUNCH	13:00 ~ 15:30 LUNCH
	15:30 ~ 17:00 SESSION B.1. Engine Modelling (I)	15:30 ~ 17:00 SESSION D.1. Thermal Management (I)	15:30 ~ 17:00 SESSION G.1. New Concepts
	17:00 ~ 17:30 COFFEE BREAK	17:00 ~ 17:30 COFFEE BREAK	17:00 ~ 17:30 CLOSURE ADDRESS
18:00 ~ 19:30 CONFERENCE REGISTRATION	17:30 ~ 19:00 SESSION B.2. Engine Modelling (II)	17:30 ~ 19:00 SESSION D.2. Thermal Management (II)	
19:30 ~ 20:00 WELCOME ADDRESS			
20:00 ~ 21:30 WELCOME COCKTAIL			20:00 ~ 24:00 GALA DINNER



Wednesday

SEPTEMBER 14th

CONFERENCE REGISTRATION	7:30 ~ 8:30 h
SESSION A.1. FUEL INJECTION & SPRAYS (I) Chairperson C. ARCOUMANIS City University (UK)	8:30 ~ 10:30
KEYNOTE LECTURE: Challenges and technical path for future clean & efficient Diesel ICE J. THIBONNET Renault (France)	
> Using LES and x-ray imaging to understand the influence of injection hole geometry on Diesel spray formation J. SHI, P.L. AGUADO, G. DOBER, N. GUERRASSI DELPHI Automotive Systems (Luxembourg) · W. BAUER Ansys (Germany) M.-C. LAI Wayne State University (USA)	
> X-ray radiography of cavitation in a beryllium alloy nozzle D.J. DUKE, A.B. SWANTEK, K.E. MATUSIK, A.L. KASTENGREN, C.F. POWELL Argonne National Laboratory (USA) J.P. VIERA, R.PAYRI Universitat Politècnica de València (Spain)	
> Optimization of the CNG Direct Injection in a small research SI engine F. CATAPANO, S. DI IORIO, P. SEMENTA, B.M. VAGLIECO CNR-Istituto Motori (Italy)	
COFFEE BREAK	10:30 ~ 11:00
SESSION A.2. FUEL INJECTION & SPRAYS (II) Chairperson Y. WRIGHT ETH Zürich (Switzerland)	11:00 ~ 13:00
> Effects of micro-hole nozzle and ultra-high injection pressure on air entrainment, liquid penetration, flame lift-off and soot formation of Diesel spray flame K. NISHIDA, X. LENG University of Hiroshima (Japan) · J. ZHU MAZDA Motor Corporation (Japan) · Z. HE Jiangsu University (China)	
> Spray and combustion with high injection pressure at 250 MPa in a light duty Diesel engine W. CHO, C. BAE, S. KANG Korea Advanced Institute of Science and Technology -KAIST- (Korea) Y. KIM Hyundai Motor Company (Korea)	
> Assessment of a triple-injection strategy for PCCI Diesel engine combustion M. KORKMAZ, B. JOCHIM, J. BEECKMANN, H. PITSCH ITV–RWTH Aachen University (Germany) · R. ZWIEGEL, D. ABEL IRT–RWTH Aachen University (Germany)	
> Cause-and-effect chain from flow and spray to heat release during lean gasoline combustion operation using conditional statistics CH. KRÜGER, J. SCHORR, F. NICOLLET Daimler AG (Germany) · J. BODE, A. DREIZLER, B. BÖHM Technische Universität Darmstadt (Germany)	
LUNCH	13:00 ~ 15:30
SESSION B.1. ENGINE MODELLING (I) Chairperson P. MILES Sandia National Laboratories (USA)	15:30 ~ 17:00
KEYNOTE LECTURE: Future opportunities and challenges for IC Engine CFD software developers P.K. SENEAL Convergent Science (USA)	
> Development of robust Diesel spray model using spray characterization experiment data S. AYYAPUREDDI, Z. VERSEY, P. DUNKLEY, S.R. PIERSON Jaguar Land Rover (UK)	
> Modelling combustion under ECN Spray A conditions with multiple injections using the transported PDF method M. BOLLA, M.A. CHISHTY, E.R. HAWKES, S. KOOK The University of New South Wales (Australia)	
COFFEE BREAK	17:00 ~ 17:30
SESSION B.2. ENGINE MODELLING (II) Chairperson D. SPLITTER Oak Ridge National Laboratory (USA)	17:30 ~ 19:00
> Non-equilibrium wall-modeling for simulations of internal combustion engines M. IHME, P.C. MA Stanford University (USA) · M. GREENE, V. SICK University of Michigan (USA) CH. JAINSKI, A. DREIZLER Tu Darmstadt (Germany)	
> Sensitivity analysis on key CFD model inputs for gasoline compression ignition on an IBM Blue Gene/Q supercomputer J. KODAVASAL, N. VAN DAM, Y. PEI, K. HARMS, K. MAHESHWARI, A. WAGNER, M. GARCÍA, S. CIATTI, S. SOM Argonne National Laboratory (USA) P. K. SENEAL, Convergent Science (USA)	
> A comprehensive methodology for CFD combustion modeling of industrial Diesel engines T. LUCCHINI, A. DELLA TORRE, G. D'ERRICO, A. ONORATI Politecnico di Milano (Italy) N. MAES, L. M. T. SOMERS Technische Universiteit Eindhoven (The Netherlands) · G. HARDY FPT Motorenforschung (Switzerland)	

Thursday

SEPTEMBER 15th

SESSION C.1. COMBUSTION (I)

Chairperson T. KOCH Karlsruher Institut für Technologie (Germany)

8:30 ~ 10:30

KEYNOTE LECTURE: Chemical and physical processes leading to soot formation and our ability to model them

S. SKEEN Sandia National Laboratories (USA)

> Potential of CFD simulation for developing low soot combustion concepts for large bore Diesel engines

J. VYSTEJN, G. TAUCHER, M. ENGELMAYER, A. WIMMER Lec. Graz University of Technology (Austria)

> Soot modeling with Particle Sectional Model (PSM) in Diesel engine. Results and discussion

F. RAVET, L. DUTFOY Renault (France) • B. RATHINAM Renault Nissan (India)

H. LEHTINIEMI, L. SEIDEL, C. NETZER, F. MAUSS LOGE (Sweden)

> Improvement of soot formation prediction accuracy in 3D CFD simulation of future passenger car Diesel engines

L. SHARIFIAN, S. MIRCO, J. A. MORENO GÓMEZ, F. A. LAFOSSAS, A. MOHAMMADI, J. M. VAN BAELE Toyota Motor Europe (Belgium)

COFFEE BREAK

10:30 ~ 11:00

SESSION C.2. COMBUSTION (II)

Chairperson A. MOHAMMADI Toyota Motor Europe (Belgium)

11:00 ~ 13:00

> Predictive combustion CFD simulations for the design of modern Diesel engines

F. A. TAP, C. MEIJER Dacolt International (The Netherlands) • P. PRIESCHING AVL (Austria)

> Investigation of cycle resolved emissions under transient operation using different injection strategies on a modern passenger car Diesel engine

C. BARRO, P. KYRTATOS, Vir2sense / ETH Zürich (Switzerland) • K. BOULOUCHOS ETH Zürich (Switzerland)

> Investigation of the influence of injection timing, air-fuel-ratio and residual gas fraction on the combustion chamber deposit build up of a homogeneous charge compression ignition engine

M. NEUROHR, M. MÄNNER, H. KUBACH IFKM Karlsruher Institut für Technologie (Germany)

> Modeling the effects of pilot injection strategies on combustion noise and soot emissions in a light duty optical Diesel engine

F. PERINI, R.D. REITZ ERC - University of Wisconsin Madison (USA)

K. ZHA, S. BUSCH Sandia National Laboratories (USA) • A. WAREY, R. PETERSON General Motors (USA)

LUNCH

13:00 ~ 15:30

SESSION D.1. THERMAL MANAGEMENT (I)

Chairperson S. AYYAPUREDDI Jaguar Land Rover (UK)

15:30 ~ 17:00

KEYNOTE LECTURE: Strategies for high thermal efficiency and high performance engine development in Toyota

T. TOMODA Toyota (Japan)

> Simultaneous improvements in thermal efficiency and exhaust emissions in a heavy-duty Diesel engine by utilizing newly designed multiple injectors system

N. UCHIDA New ACE Institute (Japan) • T. OKAMOTO Isuzu Advanced Engineering Center (Japan)

> Effect of in-cylinder swirl on engine efficiency and heat rejection in a light-duty Diesel engine

J. BENAJES, P. OLMEDA, J. MARTÍN, A. GARCÍA Universitat Politècnica de València (Spain) • A. WAREY, V. DOMÉNECH General Motors Global R&D (USA)

COFFEE BREAK

17:00 ~ 17:30

SESSION D.2. THERMAL MANAGEMENT (II)

Chairperson G. COMA Renault (France)

17:30 ~ 19:00

> An assessment of thermodynamic merits for current and potential future engine operating strategies

M. WISSINK, D.A. SPLITTER, A.B. DEMPSEY, S.J. CURRAN, B. KAUL, J.P. SZYBIST Oak Ridge National Laboratory (USA)

> Matching of an in-cylinder waste heat recovery system based on a new zero-dimensional thermodynamic model

S. ZHU, K. DENG Shanghai Jiao Tong University (China)

> An innovative high efficiency Diesel combustion concept with reduced heat loss

M. THIROUARD, O. LAGET, G. DE PAOLA, J.M. ZACCARDI IFP Energies Nouvelles (France)

Friday

SEPTEMBER 16th

SESSION E.1. TURBOCHARGING

Chairperson S. BENDER Horiba Europe (Germany)

8:30 ~ 10:30

KEYNOTE LECTURE: ORC turbine generator for trucks design and performance tests

J. SEUME Leibniz Universität Hannover (Germany)

> Basic issues with high-efficiency turbochargers with radial turbines for Diesel engines

J. MACEK, O. VÍTEK, V. DOLEČEK Czech Technical University in Prague (Czech Republic)

> Variable geometry turbine design for off-highway vehicle organic Rankine cycle waste heat recovery

A. KARVOUNTZIS-KONTAKIOTIS, F. ALSHAMMARI, A. PESIRIDIS Brunel University London (UK)

B. FRANCHETTI, Y. PESMAZOGLOU, L. TOCCI Entropea Labs (UK)

> Development of charging system and thermodynamics of the new BMW six-cylinder top end engine

P. NEFISCHER, J. DWORSCHAK, P. RASCHL, P. STAUB, E. RECHBERGER BMW Motoren (Austria)

COFFEE BREAK

10:30 ~ 11:00

SESSION F.1. EXPERIMENTAL METHODOLOGIES

Chairperson M. POTTER General Motors (USA)

11:00 ~ 13:00

> High-speed UV chemiluminescence imaging of late combustion in Diesel spray flame

K. KONDO, M. KURIBAYASHI, K. SAKAI, T. AIZAWA Meiji University (Japan)

> Calibration of a global kinetic mechanism based on synthetic gas bench experiments for a lean NOx trap catalyst for automotive applications

F. MILLO, M. RAFIGH Politecnico di Torino (Italy) · S. WAHIDUZZAMAN, R. DUDGEON Gamma Technologies (USA)

> Experimental validation of pressure loss models under pulsating conditions in three-way junctions

Y. HARDALUPAS, C. NIKITA, A.M.K.P TAYLOR Imperial College London (UK) · A. ONORATI, G. MONTENEGRO, T. CERRI Politecnico di Milano (Italy)

> Altitude simulator to analyze performance and emissions of a Diesel engine operating at a high plateau

V. BERMÚDEZ, J.R. SERRANO, P. PIQUERAS, J. GÓMEZ Universitat Politècnica de València (Spain) · S. BENDER Horiba Europe (Germany)

LUNCH

13:00 ~ 15:00

SESSION G.1. NEW CONCEPTS

Chairperson E. MANCARUSO Istituto Motori - CNR (Italy)

15:00 ~ 17:00

KEYNOTE LECTURE: Combustion system optimization for next generation of Diesel engines at PSA

T. DUVERGER PSA (France)

> Comparison of different scavenging concepts on two-stroke high-speed Diesel engines

E. MATTARELLI, C.A. RINALDINI, T. SAVIOLI, G. CANTORE University of Modena and Reggio Emilia (Italy)

V. GOPALAKRISHNAN, A. WAREY, S. BALESTRINO, M. A. POTTER General Motors (USA)

> Utilizing boost and double injections for enhanced stratified-charge DISI operation with gasoline and E30 fuels

W. ZENG, M. SJÖBERG Sandia National Laboratories (USA)

> Operational limits assessment of RCCI combustion in a high compression ratio medium-duty Diesel engine using near-term available biofuels

J. BENAÏES, A. GARCÍA, J. MONSALVE-SERRANO Universitat Politècnica de València (Spain) · I. BALLOUL, G. PRADEL VOLVO (France)

CLOSURE ADDRESS

17:00 ~ 17:30

GALA DINNER

20:30 ~ 24:00



IJER SPECIAL ISSUE

A selection of papers from THIESEL2016 will be published by the International Journal of Engine Research (IJER) in a special issue

POSTER SESSION

The following poster session is planned to enable the presentation of interesting work that could not be included in the Conference presentations. Abstracts of these works are included in the Conference Proceedings. Conference participants are invited to visit the poster session and discuss the issues with their authors.

Preliminary review of cetane number effects on combustion characteristics between differently-sized engines

J. LI, T.J. JACOBS Texas A&M University (USA) · T. BERA, M. PARKES Shell Global Solutions (USA)

A novel optical experimental suite for CI combustion characterization

D. EMBERSON, T. LÖVÅS, K. O. BJØRGEN Norwegian University of Science and Technology (Norway)

Formation of NO₂ in a commercial vehicle Diesel engine

M. RÖBLER, C. JANZER, A. VELJI, M. OLZMANN, T. KOCH Karlsruhe Institute of Technology- KIT (Germany)

Cycle variation of velocity and size of droplets in Diesel sprays near injector nozzle

K. UDAGAWA, H. SUZUKI, T. MITA Isuzu (Japan) · K. KOMADA, H. UEKI Nagasaki University (Japan)

Experimental and numerical investigations on pressure loss of compressible flow at exhaust manifold T-junctions

K. ZHANG, S. ZHU, W. WANG, Z. WANG, K. DENG Shanghai Jiao Tong University (China)

ICPS based combustion control synthesis for Diesel engines

B. VAROQUIE, A. HELLEMANS, A. POURNAIN, C. BOUQUEY Continental Automotive France SAS (France)

Application of Reactivity Stratified Compression Ignition (RSCI) to large-size gas engines

H. TASHIMA, D. TSURU Kyushu University (Japan)

Calculating Diesel physical properties at injection pressures and temperatures using atomistic simulation methods

A. VERMA, I. RUDRA Shell India Markets (India) · D. DOYLE, R. CRACKNELL Shell Global Solutions (UK)

A study on improving thermal efficiency of a natural gas Diesel-dual-fuel engine by enhancing dispersion of pilot Diesel spray

A. KIKUSATO, M. SATO, M. IWASE, M. HORIKOSHI, J. KUSAKA, Y. DAISHO Waseda University (Japan)

Infrared emission detection as a fuel-vapor penetration diagnostic

E. MANCARUSO, L. SEQUINO Istituto Motori-CNR (Italy) · W.E. EAGLE, M.P.B. MUSCULUS Sandia National Laboratories (USA)
L-M. MALBEC IFP Energies Nouvelles (France)

Neutron imaging of advanced transportation technologies

T.J. TOOPS, D.A. SPLITTER, C.E.A. FINNEY, E.J. NAFZIGER, M.M. DEBUSK, A.E. PAWLOWSKI Oak Ridge National Laboratory (USA)

Model experiments of flow through exhaust valves

M. WINROTH, C.L. FORD, P.H. ALFREDSSON. KTH Royal Institute of Technology (Sweden)

DPF investigations: comparison of soot issued from Diesel and naphtha combustion

C. CHAILLOU, A. BOUET Aramco Fuel Research Center (France) · F. DUFFOUR, A. FROBERT IFP Energies Nouvelles (France)

Lagrangian particle tracking of Diesel particulate matters for different annular pipe sizes

P. TALEBIZADEHSARDARI, H. RAHIMZADEH Amirkabir University of Technology (Iran). G. AHMADI Clarkson University (USA)
R. BROWN Queensland University of Technology (Australia)

Ignition characteristics of jet fuel at elevated pressure and temperature conditions

J. E. TEMME, C.B.M. KWEON U.S. Army Research Laboratory (USA)

Fuel economy and emission characteristics of naphtha fuel in a dual injection SI engine

Y.R. KIM, S.Y. LEE, G.B. CHO Korea Institute of Machinery and Materials (South Korea)

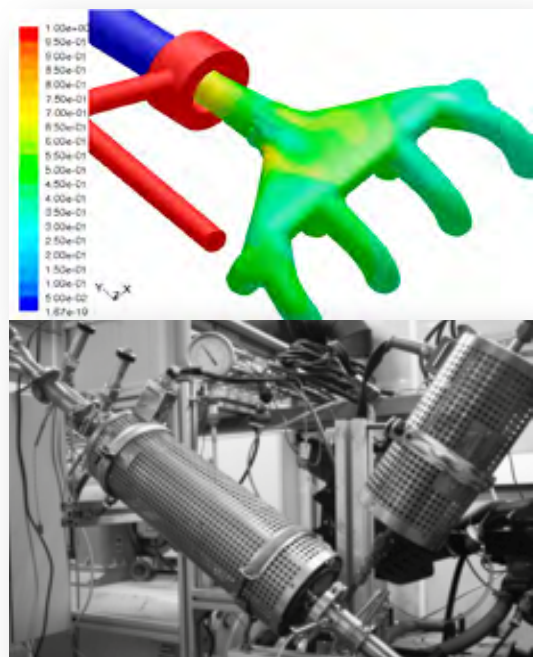
> CONFERENCE LOCATION

The conference will take place in the Conference Building at the Universitat Politècnica de València, Valencia (Spain) on **September 13th-16th, 2016**.

UNIVERSITAT POLITÈCNICA DE VALÈNCIA



1 Paraninfo - Conference Building 2 CMT-Motores Térmicos 3 C.M. Galileo Galilei



> REGISTRATION FEES

Registration should be made through the Conference website. The registration fee is:

- € 700 (payment in national currencies will also be accepted).
- € 850 for late registrations received after 25th July 2016.

The fee will include:

- Attendance to the Conference sessions.
- Conference Proceedings (electronic format).
- Coffee breaks and lunches during the Conference.
- Welcome reception and closure gala dinner.
- Transport by special bus to and from Conference hotels and Conference centre.

Would-be participants are encouraged to fill in the on-line registration form which may be found on the Conference website (<http://www.cmt.upv.es/Thiesel2016/Thiesel.aspx>) and submit it on-line or send it together with the payment form by post, fax or e-mail to the Congress Office Pacific World (contact address given in page 11).

> ACCOMMODATION

Accommodation at special preferential rates is available when booking through the on-line facility offered on the Conference website (<http://www.cmt.upv.es/Thiesel2016/Thiesel.aspx>), in the following hotels:

HOTEL	LOCATION	DOUBLE ROOM (single use)	DOUBLE ROOM
HOTEL TRYP OCEANIC 4*	Close to City of Arts and Science and commercial centre	80 €	90 €
HOTEL BARCELÓ 4*	Close to City of Arts and Science	80 €	90 €
HOTEL AC VALENCIA 4*	Close to City of Arts and Science and commercial centre	77 €	88 €
HOTEL RENASA 3*	Close to venue	78 €	92 €
ONE SHOT COLÓN 3*	In city centre	89 €	101 €

Prices are per room and night and include breakfast and taxes. Early booking is recommended to ensure availability of a room in the hotel of your choice. Due to accommodation problems in the city of Valencia where many events and fairs take place, no room will be guaranteed **after August 5th, 2016**. If you intend to bring an accompanying person, please indicate so in the registration form. For more information about hotels or planned social activities, consult the Conference website.

> CONFERENCE EXHIBITION

As in previous years, an exhibition will be held featuring a selection of stands representing high-profile companies connected to the development of direct Injection engine technology:

CAMBUSTION

J6 The Paddocks · 347 Cherry Hinton Road · Cambridge CB1 8DH (UK)
Tel.: +44 1223 210250 · Email: sales@combustion.com · Website: www.combustion.com

CONVERGENT SCIENCE GMBH

Hauptstrasse 10 · 4040 Linz, Austria
Tel: + 43 720 010 660 0 · Website: convergecd.com

AVL

Jaume Vicens Vives, 22, Edif. El Rengle · 08302 Mataró (Barcelona) - Spain
Tel.: 937554885 · E-mail: comercial@avl.com · Website: www.avl.com

HORIBA EUROPE GMBH

Landwehrstrasse 55 · 64293 Darmstadt - Germany
Tel.: +49 (0)6151-5000-2451 · E-mail: odile.gambier@horiba.com · Website: www.horiba.com

KISTLER IBÉRICA SLU

Pallars 6 · 08402 Granollers (Barcelona) - Spain
Tel.: 938 60 33 24 · E-mail: info.es@kistler.com · Website: www.kistler.com

> CONTACT DETAILS

• CONFERENCE SECRETARIAT

CMT-Motores Térmicos-Universitat Politècnica de València · Camino de Vera s/n · 46022 Valencia (Spain)
Tel: +34 96 387 76 50 · Fax: +34 96 387 76 59 · E-mail: secrecon@mot.upv.es
<http://www.cmt.upv.es/Thiesel2016/Thiesel.aspx>

• REGISTRATION AND HOTELS

Pacific World (Meetings & Events Spain SLU) · General Urrutia 75, 3B · 46013 Valencia (Spain)
Tel.: +34 96 352 81 61 · Fax: +34 96 394 11 58 · E-mail: reg-thiesel2016@pacificworld.com

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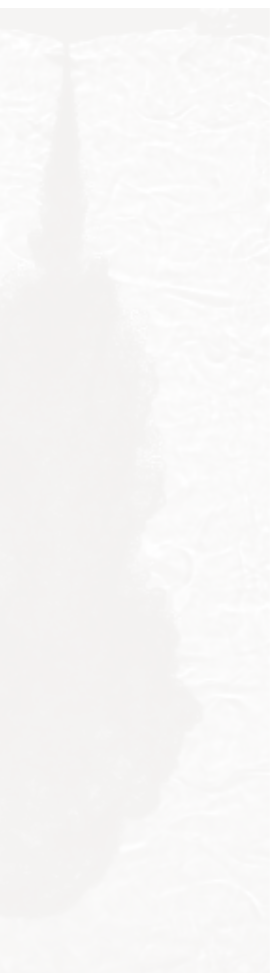
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For updated information about the Conference please visit the web site: [http:// www.cmt.upv.es](http://www.cmt.upv.es)

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