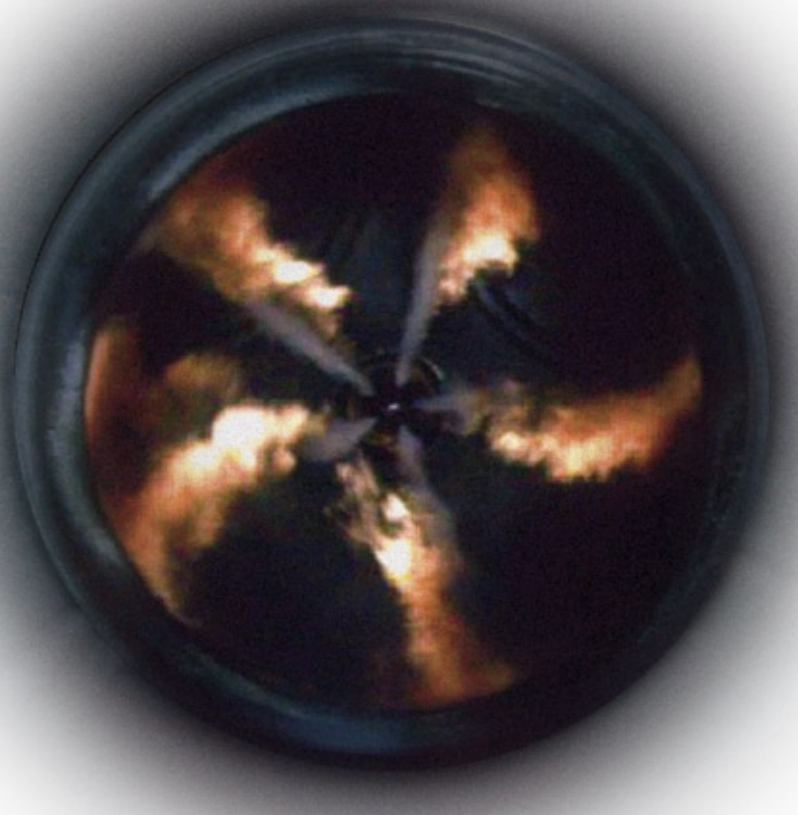
THIESEL 2006

Preliminary Programme

Conference on:

Thermo-and fluid dynamic processes in Diesel Engines

September 12th / 15th **2006**



UNIVERSIDAD POLITÉCNICA DE VALENCIA

motores térmicos

ORGANISED BY: **CMT-MOTORES TÉRMICOS.** Universidad Politécnica de Valencia, Spain.

Objectives

The THIESEL Conference on 'Thermo-and Fluid Dynamic Processes in Diesel Engines' is now a marked meeting point between both the industry and the research people of the Diesel automotive sector.
The international participation to the conference has been growing steadily since its first edition in 2000, thus demonstrating that there is a real need for such a gathering.
The task of complying with the strict current and future regulations regarding emission levels is indeed an international challenge. New solutions may be called for, based on hydrogen and fuel cell technologies, but until problems such as production and storage are solved, they can only have limited applications. It is therefore certain that the internal combustion engine will remain the main propulsion system for vehicles in the next 20 to 30 years and beyond. Hence the importance of research oriented at reducing pollutants. A combination of new technology and new fuels is needed to reach the near zero emission level targets aimed at. New generation engines will have to be significantly more efficient, consume less and be silent. The development of advanced control strategies should provide the flexibility required to make the most of modern multiple injection systems, so that the combustion process may be optimised. In addition, the application of the homogeneous charge compression ignition (HCCI) concept should represent a step towards significant reduction of NOx emissions in the part load range. To further reduce emissions and fuel consumption, variable control systems for the exhaust gas recirculation (EGR) and the turbo-charging will have to be developed. Considerable effort is being put in understanding the combustion noise, so that it may be reduced especially at critical operating conditions.
The research in these areas benefits from the most recent advances in experimental diagnosis tools and electronic control units, as well as from the continuing effort to improve CFD predictions. The clean and silent Diesel engine technology has real potential. However, it can only succeed if there is close co-operation between the automotive industry and its University partners. THIESEL 2006, the fourth edition of this two-yearly conference, aims at gathering good quality papers describing the most recent developments and latest innovations relative to thermo-and fluid dynamic processes in Diesel engines. And, just as important is its philosophy to bring together ideas from both Industry and Academia, because the success of a clean and silent Diesel engine clearly depends on the close co-operation between the automotive industry and its University partners.

Conference overview

The conference will be held over three and a half days. On the first day, in the afternoon of Tuesday 12th of September, there will be the official opening including a welcome address and a welcome cocktail. Registration will be open from Tuesday afternoon and participants are encouraged to register as early as possible. The technical sessions will start on Wednesday morning the 13th of September and will conclude on Friday the 15th of September in the afternoon. 44 papers are scheduled, including 6 keynote addresses by prestigious names of the Diesel automotive area. Speakers will be given 30 min. for their presentation comprising a brief discussion with other participants. A gala dinner will be offered to participants on the 15th of September to close the conference on a happy relaxed note.

About UPV CMT-MotoresTérmicos

The Universidad Politécnica de Valencia is a Technical University and was founded in 1971. The University has seven Superior Schools (5 annual courses) and eight Technical Schools (3 annual courses), with about 35.000 students and a teaching staff of 2.000. CMT-Motores Térmicos is a University Department and a University Research Institute at the same time. Founded in 1979 CMT-Motores Térmicos is nowadays composed by about 100 members including professors, researchers, laboratory technicians and administrative staff.Well-known for its research activities centred on thermo-and fluid dynamic processes in internal combustion engines, with a focus on Diesel automotive engines, CMT-Motores Térmicos is a very active group involved in many R&D projects supported by private companies as well as by public funds, including several European research programs. Research areas include air management and turbo-charging, fuel injection and combustion, pollutant formation, thermal management, noise control, as well as development and application of experimental techniques for engine research.
The research philosophy of the group combines theoretical, modelling and experimental work to improve the knowledge of the basic processes, while providing solutions for the European automotive industry requests.

SESSION MATRIX

	Tuesday, september 12th	Wednesday, september 13th	Thursday, september 14th	Friday, september 15th
7:30/8:30		CONFERENCE REGISTRATION		
8:30/10:30		SESSION A.1. INJECTION & SPRAYS (I)	SESSION C.1. COMBUSTION & EMISSIONS (I)	SESSION E.1. ENGINE OPTIMISATION (I)
10:30/11:00		coffee break		
11:00/13:00		SESSION A.2. INJECTION & SPRAYS (II)	SESSION C.2. COMBUSTION & EMISSIONS (II)	SESSION E.2. ENGINE OPTIMISATION (II)
13:00/15:30		lunch		
15:30/17:30		SESSION B.1. AFTER-TREATMENT	SESSION D.1. ENGINE MODELLING (I)	SESSION F.1. AIR MANAGEMENT AND TURBOCHARGING (I)
17:30/18:00	CONFERENCE REGISTRATION	coffee break		
18:00/19:30		SESSION B.2. EXPERIMENTAL TECHNIQUES	SESSION D.2. ENGINE MODELLING (II)	SESSION F.2. AIR MANAGEMENT AND TURBOCHARGING (II)
19:30/20:00	WELCOME ADDRESS			CLOSURE ADDRESS
20:00/22:00	WELCOME COCKTAIL			
22:00/24:00				GALA DINNER

Wednesday, september 13th

CONFERENCE REGISTRATION 7:30/8:30

SESSION A.1. INJECTION & SPRAYS (I) 8:30/10:30

Keynote address:
N. PETERS

"THE EFFECTS OF SPRAY FORMATION AND EVAPORATION ON MIXING, AUTO-IGNITION AND COMBUSTION IN DIESEL ENGINES"
N. Peters and J. Weber. RWTH AACHEN (GERMANY)

"DEVELOPMENTS IN DIESEL SPRAY CHARACTERISATION AND MODELLING"
K. Karimi, E. M. Sazhina, W. A. Abdelghaffar, C. Crua, T. Cowell, M. R. Heikal. UNIVERSITY OF BRIGHTON (UK), M. R. Gold. RICARDO TECHNICAL CENTRE (UK)

"A COMPARISON OF HEAT TRANSFER AND SPRAY CHARACTERISTICS FOR MODEL FUEL AND STANDARD DIESEL SPRAYS INTERACTING WITH A TEMPERATURE CONTROLLED WALL"
A. Magnusson and S. Andersson. CHALMERS UNIVERSITY OF TECHNOLOGY (SWEDEN), S. Jedrzejowski. TECHNICAL UNIVERSITY OF LODZ (POLAND)

"MULTIPLE INJECTION STRATEGIES AND THEIR EFFECT ON POLLUTANT EMISSION IN PASSENGER CAR DIESEL ENGINES"
O. Kastner, F. Atzler, A. Weigand and K. Wenzlawski. SIEMENS VDO AUTOMOTIVE (GERMANY), A. Müller and H. Zellbeck. TECHNISCHE UNIVERSITÄT DRESDEN (GERMANY)

COFFEE BREAK 10:30/11:00

SESSION A.2. INJECTION & SPRAYS (II) 11:00/13:00

"THE FLOW CHARACTERISTICS OF HIGH EFFICIENCY DIESEL NOZZLES WITH ENHANCED GEOMETRY HOLES"
C. Soteriou, C. Brown, S. Zuelch and M. Lambert. DELPHI DIESEL SYSTEMS (UK), D. Passerel. RENAULT (FRANCE)

"EXPERIMENTAL AND NUMERICAL ANALYSIS OF A DIESEL COMMON RAIL FUEL SPRAY IN AN AIR QUIESCENT VESSEL"
M. Badami, F. Millo, F. Mallamo and A. Pinzello. POLITECNICO DI TORINO (ITALY), L. Postrioti and F. Mariani. UNIVERSITÀ DEGLI STUDI DI PERUGIA (ITALY)

"INVESTIGATION OF ATOMIZATION CHARACTERISTICS IN DENSE DIESEL SPRAY FROM COMMON RAIL INJECTOR USING MICRO-PROBE L2F"
H. Ueki, M. Ishida and D. Sakaguchi. NAGASAKI UNIVERSITY (JAPAN)

"SPRAY INTERACTION AND MIXTURE FORMATION IN DIESEL ENGINES WITH GROUPED HOLE NOZZLES"
Ph. Adomeit, H. Rohs and T. Körfer. FEV MOTORENTECHNIK (GERMANY), H. Busch. RWTH AACHEN (GERMANY)

LUNCH 13:00/15:30

SESSION B.1. AFTERTREATMENT 15:30/17:30

Keynote address:
P. ANRIGO

"EVOLUTION OF THE DIESEL ENGINES; FROM THE KAIZEN TO THE INNOVATE CONCEPTS, THE VARIOUS ROADS TO ENVIRONMENT-FRIENDLY PROGRESS"
P. Anrigo. RENAULT (FRANCE)

"A 1D UNSTEADY THERMO-FLUID DYNAMIC APPROACH FOR THE SIMULATION OF DIESEL PARTICULATE FILTERS"
F. Piscaglia, G. Montenegro and A. Onorati. POLITECNICO DI MILANO (ITALY)

"DEVELOPMENT OF AN INTEGRATED ONE-DIMENSIONAL MODEL OF ADVANCED DIESEL AFTERTREATMENT SYSTEM"
Y. He. GENERAL MOTORS (USA)

"DIESEL PARTICULATE FILTER ON URBAN CARS"
M. Daneau. RENAULT (FRANCE)

COFFEE BREAK 17:30/18:00

SESSION B.2. EXPERIMENTAL TECHNIQUES 18:00/19:30

"OPTICAL MONITORING OF RADICAL SPECIES IN HCCI MODE OF COMMON RAIL DIESEL ENGINE"
E. Mancaruso, S. S. Merola and B. M. Vaglieco. ISTITUTO MOTORI (ITALY)

"CHARACTERIZATION OF SOOT PARTICLES IN DIESEL EXHAUST"
T. Kamimoto, M. Kase, Y. Miyamoto. TOKAI UNIVERSITY (JAPAN), T. Taishi. TSUKASA SOKKEN CO. (JAPAN)

"INVESTIGATION ON HCCI COMBUSTION USING A SINGLE SHOT MACHINE"
A. Escher and K. Boulouchos. ETH ZURICH (SWITZERLAND)

Thursday, september 14th

SESSION C.1. COMBUSTION & EMISSIONS (I) 8:30/10:30

Keynote address:
H. FUJIMOTO

"NO FLAME REGION IN DIESEL COMBUSTION IN QUIESCENT ATMOSPHERE"
H. Fujimoto. DOSHISHA UNIVERSITY (JAPAN)

"NEAR-STOICHIOMETRIC DIESEL COMBUSTION WITH REDUCED ORIFICES ON A HEAVY-DUTY DIESEL ENGINE"
N. Dronniou, N. Auffret and M. Lejeune. VOLVO POWERTRAIN (FRANCE),
P. Higelin. UNIVERSITÉ D'ORLÉANS (FRANCE)

"THE EFFECT OF SWIRL AND INJECTION PHASING ON FLOW STRUCTURES AND MIXING IN A HSDI DIESEL ENGINE"
L. Hildingsson and A. Hultqvist. LUND INSTITUTE OF TECHNOLOGY (SWEDEN),
P. Miles. SANDIA NATIONAL LABORATORIES (USA)

"POTENTIAL OF EXPERIMENTAL INJECTION CHARACTERISATION FOR COMBUSTION UNDERSTANDING AND ANALYSIS"
J. V. Pastor, R. Payri, J. M. García and J. M. Pastor. UNIVERSIDAD POLITECNICA DE VALENCIA (SPAIN)

COFFEE BREAK 10:30/11:00

SESSION C.2. COMBUSTION & EMISSIONS (II) 11:00/13:00

"DIESEL COMBUSTION TECHNOLOGY TO MEET GLOBAL LIGHT-DUTY DIESEL DEMANDS"
B. Cooper, I. Penny, M. Beasley and D. Rawlins. RICARDO CONSULTING ENGINEERS (UK)

"SPECIATION OF DIESEL EXHAUST HYDROCARBONS EMISSION USING BIOFUELS ON AN AUTOMOTIVE ENGINE"
R. Ballesteros, J. J. Hernández, L. L. Lyons and A. Tapia. UNIVERSIDAD DE CASTILLA-LA MANCHA (SPAIN)

"FUEL DESIGN APPROACH FOR LOWER EMISSION SPRAY COMBUSTION BY USE OF SEVERAL MIXING FUELS"
J. Senda, Y. Wada and H. Fujimoto. DOSHISHA UNIVERSITY (JAPAN),
D. Kawano. NATIONAL TRAFFIC SAFETY AND ENVIRONMENT LABORATORY (JAPAN)

"POTENTIAL OF SYNTHETIC DIESEL FUELS"
N. Steinbach, H. Harndorf and F. Weberbauer. ROBERT BOSCH (GERMANY)

LUNCH 13:00/15:30

SESSION D.1. ENGINE MODELLING (I) 15:30/17:30

Keynote address:
P. MILES

"ROLE OF FLOW STRUCTURES AND MIXING IN LOW TEMPERATURE DIESEL COMBUSTION"
P. Miles. SANDIA NATIONAL LABORATORIES (USA)

"NUMERICAL CHARACTERIZATION OF CO AND HC FORMATION STRUCTURE IN AN HSDI DIESEL ENGINE COMBUSTION UNDER PART-LOAD, SPLIT-INJECTION CONDITIONS"
F. Tao and R. D. Reitz. UNIVERSITY OF WISCONSIN-MADISON (USA),
W. Willems. FORD RESEARCH CENTER-AACHEN (GERMANY)

"PREDICTION OF NON-PREMIXED COMBUSTION AND SOOT FORMATION USING AN INTERACTIVE FLAMELET APPROACH"
H. Bensler, E. Montefrancesco and J. Willand. VOLKSWAGEN (GERMANY),
T. Bo. RICARDO SOFTWARE (UK), A. De Risi. UNIVERSITY OF LECCE (ITALY),
F. Mauss and K. Netzell. LUND INSTITUTE OF TECHNOLOGY (SWEDEN)

"EFFECTS OF AMBIENT TEMPERATURE AND DENSITY ON SOOT FORMATION UNDER HIGH-EGR CONDITIONS"
L. M. Pickett and C. A. Idicheria. SANDIA NATIONAL LABORATORIES (USA)

COFFEE BREAK 17:30/18:00

SESSION D.2. ENGINE MODELLING (II) 18:00/19:30

"SIMULATION OF SOOT FORMATION FOR DIESEL ENGINE LIKE CONDITIONS AND COMPARISON WITH EXPERIMENTAL DATA"
I. Magnusson, M. Balthasar and T. Hellström. VOLVO TECHNOLOGY (SWEDEN)

"DEVELOPMENT AND EVALUATION OF A SIMULATION MODEL FOR RICH DIESEL COMBUSTION"
D. T. Hountalas and G. Maragiannis. NATIONAL TECHNICAL UNIVERSITY OF ATHENS (GREECE),
D. H. Ofner. AVL LIST (AUSTRIA)

"MODELING OF THE SOOT PARTICLE SIZE DISTRIBUTION IN DIESEL ENGINES"
P. Wenzel, A. Gezgin, R. Steiner, C. Krüger. DAIMLERCHRYSLER (GERMANY),
K. Netzell and H. Lehtiniemi. LUND INSTITUTE OF TECHNOLOGY (SWEDEN),
F. Mauss. TECHNISCHE UNIVERSITÄT COTTBUS (GERMANY)

Friday, september 15th

SESSION E.1. ENGINE OPTIMISATION (I) 8:30/10:30

Keynote address:
J-P. FAYOLLE

"ENGINEERING AND DESIGN OFFICES: HOW THEY RESPOND TO INDUSTRIAL DEMANDS"
J-P. Fayolle. VOLVO POWERTRAIN (FRANCE)

"INVESTIGATING EFFECTS OF TRANSIENTS ON DIESEL EMISSIONS USING ENGINE-IN-THE-LOOP TESTING"
Z. Filipi, J. Hagena, H. Fathy, D. Assanis and J. Stein. THE UNIVERSITY OF MICHIGAN (USA)

"DEVELOPMENT OF A METHODOLOGY TO DEFINE THE COMMON RAIL SYSTEM DESIGN BY SIMULATION"
M. Mornet, A. G. Favennec and P. Le Tallec. PSA PEUGEOT CITROËN (FRANCE)

"IMPROVING THE ENGINE TRANSIENT PERFORMANCE USING THE MODEL-BASED PREDICTIVE CONTROL"
J. Macek, M. Polasek, O. Vítek, M. Takats, J. Vávra, V. Dolecek, Z. Sika, M. Florian, M. Valásek, P. Steinbauer and O. Vaculín, CZECH TECHNICAL UNIVERSITY IN PRAGUE (CZECH REPUBLIC)

COFFEE BREAK 10:30/11:00

SESSION E.2. ENGINE OPTIMISATION (II) 11:00/13:00

"AN ADVANCED OPTIMIZATION METHODOLOGY FOR UNDERSTANDING THE EFFECTS OF PISTON BOWL DESIGN IN LOW-TEMPERATURE DIESEL COMBUSTION"
C. Genzale and R. R. Reitz. UNIVERSITY OF WISCONSIN-MADISON (USA),
D. Wickman. WISCONSIN ENGINE RESEARCH CONSULTANTS (USA)

"CONTROL DESIGN FOR HCCI COMBUSTION ENGINE BASED ON VIRTUAL ENGINE SIMULATOR: FROM CONTROL DEVELOPMENT TO REAL TIME CALIBRATION"
A. Albrecht, Ph. Moulin, O. Grondin and G. Corde. INSTITUT FRANÇAIS DU PÉTROLE (FRANCE)

"COMPUTER AIDED OPTIMISATION (CAO) FOR SPRAY AND COMBUSTION SIMULATION"
P. Nefischer, R. Kroiss and G. Winter. BMW MOTOREN (AUSTRIA)

"ANALYSIS-LED DESIGN PROCESS FOR CUMMINS ENGINE DEVELOPMENT"
W. A. Eckerle and D. W. Stanton. CUMMINS INC. (USA)

LUNCH 13:00/15:30

SESSION F.1. AIR MANAGEMENT & TURBOCHARGING (I) 15:30/17:00

Keynote address:
D. IVALDI

"NEW GENERATION OF GASOLINE ENGINES: THE REAL DIESEL ENGINES CHALLENGE"
D. Ivaldi. CENTRO RICERCHE FIAT (ITALY)

"THE INFLUENCE OF INSTALLATION PARAMETERS ON TURBOCHARGED AUTOMOTIVE DIESEL ENGINE PERFORMANCE"
A. Leong, G. Capon and T. Morris. FORD MOTOR COMPANY (UK)

"MODELLING AND EXPERIMENTAL STUDY OF THE UNSTEADY EFFECTS AND THEIR SIGNIFICANCE FOR A NOZZLELESS AND NOZZLED TURBOCHARGER TURBINE PERFORMANCE"
A. Costall, S. Rajoo and R. F. Martínez-Botas. IMPERIAL COLLEGE LONDON (UK)

COFFEE BREAK 17:00/17:30

SESSION F.2. AIR MANAGEMENT & TURBOCHARGING (II) 17:30/19:00

"THE INFLUENCE OF INTAKE AIR BOOSTING AND EGR ON DIESEL-FUELED HCCI COMBUSTION IN A DI-DIESEL ENGINE"
C. Bae, S. Park and S. Kook. KAIST (KOREA)

"DIESEL ENGINE INTAKE PORT-FLOW STABILITY AND APPLICATION OF CFD USING A HYBRID-LOW-REYNOLDS NEAR WALL METHOD"
J. W. Campbell. IMPERIAL COLLEGE LONDON (UK),
G. Hardy. IVECO MOTORENFORSCHUNG (SWITZERLAND)

"CONCEPTION OF TWIN TURBO BOOSTING SYSTEM FOR NEW GENERATION OF PSA 2,2 LITER HDI"
J. Portalier, J. C. Blanc, F. Garnier and N. Hoffmann. PSA PEUGEOT CITROËN (FRANCE),
N. Schorn and H. Kindl. FORD FORSCHUNGSZENTRUM AACHEN (GERMANY),
J. Galindo. UNIVERSIDAD POLITÉCNICA DE VALENCIA (SPAIN)

CLOSURE ADDRESS 19:00/19:30

GALA DINNER 22:00/24:00

PRACTICAL INFORMATION

CONFERENCE LOCATION AND DATE

The conference will take place in the Conference Building of the Universidad Politécnica de Valencia known as 'Paraninfo' on September 12th - 15th, 2006.

SCHEDULE

Final paper to be submitted by **15th June 2006**

Final papers should be sent to the Conference Secretariat in an electronic format (Word and pdf). The Conference Organisation will do the appropriate edition of the complete Conference Proceedings manuscript, which will be published on paper as well as on a CD-Rom.

CONFERENCE SECRETARIAT

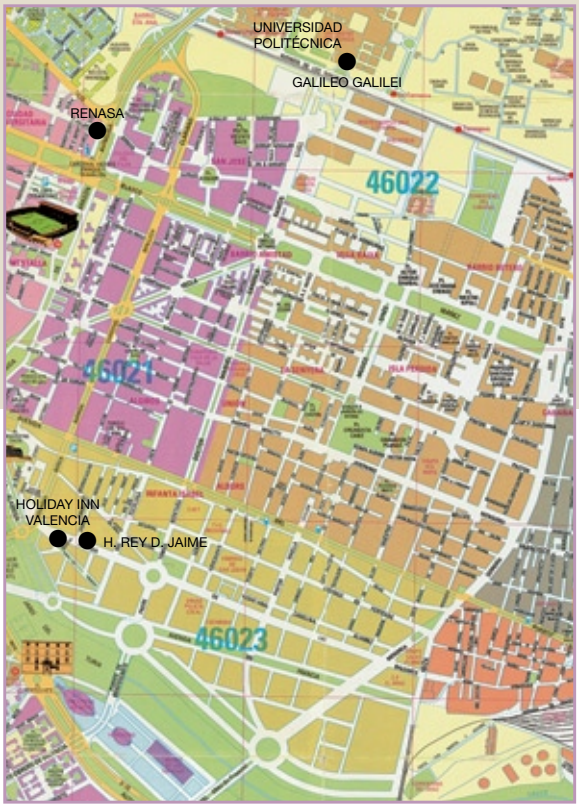
CMT - Motores Térmicos
Universidad Politécnica de Valencia
Camino de Vera s/n 46022 Valencia (Spain)
Tel.: +34 96 387 76 50
Fax: +34 96 387 76 59
e-mail: secrecon@mot.upv.es

For updated information on the organisation of the conference please visit the web page:

http://www.cmt.upv.es

POSTER SESSION

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



CONFERENCE EXHIBITION

There will be an exhibition with a limited number of stands in the entrance hall of the conference room. Several prestigious international companies, related to the Diesel engine research and development, have agreed to participate to the conference by exhibiting a stand. Conference participants will be encouraged to visit this exhibition in the afternoon of 12th September and throughout the conference, during the coffee and lunch breaks.

REGISTRATION FEES

The registration fee is 550 € for early registration and 700 € for late registration received after 10th July 2006.

The fee will include:
- Attendance to the Conference sessions
- Conference Proceedings book and CD
- Coffee breaks and lunches during the Conference
- Welcome reception and closure gala dinner
- Transfer by bus between Conference hotels and Conference site.

Would-be participants are encouraged to fill in the on-line registration form which may be found on the Conference website (www.cmt.upv.es) and submit it on-line or send it together with the payment form by post, fax or e-mail to the Congress Office Ultramar Express (address given below).

ACCOMMODATION

Accommodation may be arranged with the special on-line reservation facility offered on the Conference website (**www.cmt.upv.es**) or through:

Ultramar Express - Congress Office
Gran Vía Marqués del Turia, 49, 6º,13-14
46005 Valencia, Spain
Tel.: +34 96 352 81 61
Fax: +34 96 394 11 58
e-mail: ccortina@uex.es ; magarciaconde@uex.es

The Conference Organisation has reserved a limited number of rooms at a preferential rate for participants in the following hotels:

HOTEL HOLIDAY INN VALENCIA ****
Paseo de la Alameda, 38
46023 Valencia
Single room: 81 €
Double room: 86 €

HOTEL MELIÁ REY DON JAIME ****
Avda. Baleares, 2
46023 Valencia
Single room: 81 €
Double room: 86 €

HOTEL RENASA ***
Avenida de Cataluña, 5
46010 Valencia
Single room: 62 €
Double room: 84 €

C. M. GALILEO GALILEI
Hall of Residence on the University Campus
Avenida de los Naranjos s/n
46022 Valencia
Single room: 60 €
Double room: 84 €

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 July 15th, 2006.

If you intend to bring an accompanying person, please indicate so in the registration form. This would help us plan a few tourist activities for accompanying persons.

For more information about hotels or planned social activities, consult the Conference website.

SOCIAL PROGRAMME

A social programme for participants will be arranged including a welcome reception on Tuesday evening 12th September 2006 and a closure gala dinner at a local place of interest with a traditional entertainment on Friday evening 15th September. Accompanying persons are warmly welcome to these events (gala dinner price for accompanying persons: 90 €).

For interested participants, the Conference Organisation will prepare a visit to the CMT-Motores Térmicos Laboratories on Tuesday afternoon 12th September and at various other times during the Conference. If possible, please acknowledge your interest by sending an e-mail to the Conference Secretariat.

ABOUT VALENCIA

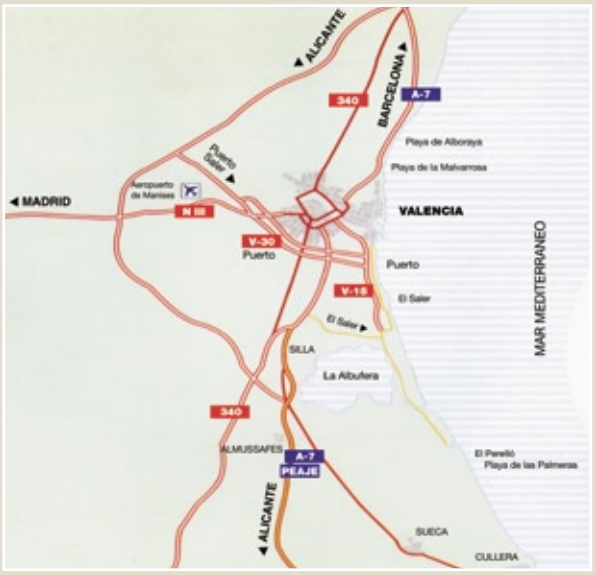
Valencia is a cosmopolitan and lively city on the East Coast of Spain, within easy access to some splendid holiday resorts such us those on the Costa Blanca and Costa de Azahar, and not far from the Balearic Islands. Valencia itself is a fascinating place, with a characteristic blend of historical tradition –with interesting examples of Middle Age and Renaissance architecture-and modern architecture– the City of Arts and Science. It has a varied cultural offer (Oceanographic museum, museum of Modern Arts, …) and an exciting nightlife, excellent weather and world - renowned festivals and regional cuisine. Taste some of the typical 'tapas' in one of the numerous restaurants outside tables and the traditional 'Paella Valenciana' or one of the dozen rice dishes that Valencian people have invented.

Valencia's beach is an ideal place to spend time sunbathing and swimming. You may also enjoy a nice walk in the shadow of the palm trees of the 'Paseo Marítimo' that lines the sea, or along the new harbour, where you may get lucky and see some of the sailing boats competing for the 32nd America's Cup.

We hope that you will enjoy your stay in this Mediterranean city.

HOW TO REACH VALENCIA

- By plane: Valencia has an international airport, Manises, located at approximately 4 kms. from the city centre. There are regular scheduled national and international flights from several European airlines. A regular bus line links the airport to the Central train station of Valencia, located in the heart of the city.
- By road: The city of Valencia also offers excellent communication by road. The A-7 Mediterranean Motorway that runs north to south provides easy connection to Catalonia and France in the north and to Alicante, Murcia and Andalucía in the south. There are also good road connections to the rest of Spain, in particular the A-3 dual motorway to Madrid.
- By rail: Valencia has also very good train connections. The high speed train Euromed links several times a day Barcelona to Valencia in approximately 3 hours. The journey between Madrid and Valencia by the regular high speed link Alaris takes little over 3 hours and 30 min.



GENERALITAT VALENCIANA

MINISTERIO DE EDUCACION Y CIENCIA

CMT-MOTORES TÉRMICOS
Universidad Politécnica de Valencia
Camino de Vera s/n. 46022 Valencia. Spain
Tel.: +34 96 387 76 50
Fax: +34 96 387 76 59
e-m@il: secrecon@mot.upv.es

For updated information on the organisation of the Conference please visit the web site:

http:// www.cmt.upv.es