

Conferences Programme – Wednesday, 14th October

HALL 1

HIGH-PERFORMANCE ENGINES AND CARS: A CHALLENGE FOR RESEARCH AND INNOVATION

In collaboration with Modena and Reggio Emilia University, Faculty of Mechanical Engineering of Modena - **Coordinator: Prof. Giuseppe Cantore**

h. 9.30 am – 1.30 pm

h. 9 am Registration of participants

Design of engines with high specific functional threshold power in FTP – *Angelo Rosetti, Fiat Power Train Technologies*

Turbocharging and Ferrari Engines – *Materazzi, Ferrari Auto*

Study of high performance engines through thermo-structural simulation – *Marco Mantovani, Gianluca Pivetti, Ferrari Auto*

Modelling of the structural performance of engine components for sports motorbikes – *Gianluca Calli, Gianluca Vignaroli, Ducati Corse*

Optimisation with a view to reducing the chassis weight of sport cars – *Massimo Pettazzoni, Ferrari Auto*

h. 11.20– 11.40 am Coffee Break

High-performance motorbike chassis design at Ducati – *Francesco Rigo, Simone Di Piazza, Ducati Motori*

Aprilia RSV4 Factory/Superbike: peculiarities of the project/development of the high-performance narrow V engine – *Claudio Lombardi, Romano Albesiano, Aprilia*

2-stroke competition engine machined from the solid – *Giampiero Testoni, CRP Racing*

Effect of heat treatment on the mechanical properties of Al-Si-Mg foundry alloys - *B. Casadei, L. Ceschini, Alessandro Morri, Andrea Morri, Smetec Department University of Bologna* – *Gianluca Pivetti, Ferrari Auto*

Correlations between the microstructure and the mechanical properties in castings for Al-Si-Mg alloy engine components - *L. Ceschini, Alessandro Morri, Andrea Morri, Department Smetec University of Bologna* – *S. Messieri, Ducati Corse* – *Gianluca Pivetti, Ferrari Auto*

www.motorsportexpotech.it

promosso da:

asso motoracing

www.assomotoracing.it

organizzato da:

Modena Fiere S.r.l.
viale Virgilio, 58/B - 41100 Modena
tel. 059 848380 - fax 059 848790
www.modenafiere.it
segreteria@motorsportexpotech.it

**2nd
edition**

ModenaFiere

 BolognaFiereGROUP

Simultaneous translation

HALL 1

RACING FUELS AND LUBRICANTS

Cured by AGIP - **Coordinator: Vittorio Massimo Clarke**

h. 3 - 5 pm

h. 2.30 pm: Registration of participants

The topic of fuels and lubricants for standard and high-performances engines will be discussed. Differences, features and modes of use will be analysed. Environmental impact will also be covered.

Speakers include Ing. Carlo Gommellini and Dr. Luca Baldini of AGIP

HALL 2

MAGNESIUM AND MOTORSPORT

In collaboration with SINERGITEC CONSORTIUM - Technological Synergies

h. 10 am - 1 pm

h. 9.30 am: Registration of participants

Magnesium and its alloys: a material for the XXI century engineering industry - *Gualtiero Valeri, Valeri Consulenza Industriale*

Thixomolding: state of the art and future prospects - *Maurizio Nordio, Consorzio Sinergitec*

Magnesium in safety components ... - *Luca Meneghetti, Seido De*

MIM - Metal Injection Molding ... a new era for powders? - *Matteo Perina, Mimest Spa*

Special Magnesium alloys... a new frontier - *Gualtiero Valeri, Valeri Consulenza Industriale*

Simultaneous translation

www.motorsportexpotech.it

promosso da:

asso motoracing

www.assomotoracing.it

organizzato da:

Modena Fiere S.r.l.
viale Virgilio, 58/B - 41100 Modena
tel. 059 848380 - fax 059 848790
www.modenafiere.it
segreteria@motorsportexpotech.it

2nd
edition

ModenaFiere

 BolognaFiereGROUP

HALL 2

RESEARCH OUTLINES AT THE INTERMECH REGIONAL LABORATORY INTO ADVANCED ENGINEERING AND THE AUTOMOTIVE SECTOR

In collaboration with the University of Modena and Reggio Emilia, Faculty of Engineering Modena

Coordinator: Prof. Angelo Oreste Andrisano

h. 2.30 – 6 pm

h. 2 pm: Registration of participants

Presentation of the INTERMECH Laboratory – *Prof. Angelo Oreste Andrisano, Lab. Simech*

Measurement and analysis of the motor-valve in high performance motor-bike and car engines –
Alessandro Rivola, Giorgio Dalpiaz, Gianluca D’Elia, Lab. LAV

Virtual prototyping of a robot-controlled bonding line on a car chassis – *Prof. A. O. Andrisano, Francesco
Leali, Marcello Pellicciari, Lab. Simech*

Simulation of hydraulic components for mobile applications – *Massimo Milani, Lab. Mectron*

The MECTRON car simulator for the study and design of automotive components – *Mauro Dell’Amico,
Lab. Mectron*

Design criteria for low-noise gear transmissions – *Prof. A. O. Andrisano, Prof. Pellicano, Lab. Simech*

Problems relating to maintenance management of mechatronic systems – *Bianca Rimini, Lab. Mectron*

Characterisation of porous materials and SEA modelling of soundproofing systems in the automotive
industry – *Francesco Pompoli, Paolo Bonfiglio, Lab. LAV, MateriAcustica srl - Maurizio Tarello,
Massimiliano Tiengo, Adler Evo srl, Lab. LAV*

Surface coatings to improve the performance of ferrous materials – *Sergio Valeri, Antonio Ballestrazzi,
Luca Marzani, Lab. Super&man*

Surface texturing of mechanical components for friction and wear control – *Enrico Gualtieri, Alberto Rota,
Sergio Valeri, Lab. Super&man*

Simultaneous translation

www.motorsportexpotech.it

promosso da:

asso motoracing

www.assomotoracing.it

organizzato da:

Modena Fiere S.r.l.
viale Virgilio, 58/B - 41100 Modena
tel. 059 848380 - fax 059 848790
www.modenafiere.it
segreteria@motorsportexpotech.it

**2nd
edition**

ModenaFiere

 BolognaFiereGROUP

Conference Programme – Thursday, 15th October

HALL 1

MATERIALS, SURFACE TREATMENTS/FINISHING - COATINGS IN THE AUTOMOTIVE AND HIGH PERFORMANCE SECTOR

In collaboration with Modena and Reggio Emilia University - Faculty of Materials Engineering and the Environment, with the support of A.I.M. and A.I.F.M. - *Coordinators: Prof. Tiziano Manfredini and Dott.ssa Flavia Gili*

h. 9.30 am - 1 pm / 2,30 - 6 pm

h. 9 am: Registration of participants

Innovative coatings for cylinder liner surfaces in high performance engines materials, processing, surface characterization and field test results – *Prof. R. Gadow, University of Stuttgart*

Innovative Materials and Surface Treatings for Premium Cars – *Gunter H. Dienzer, AUDI*

PVD-CVD coating and surface engineering techniques applied to racing and high-performance components – *C. Carini, A. Farinotti, Lafer Rivestimenti PVD-CVD Spa*

Engineering applications of mechatronic materials – *Department of Science and Engineering Methods, University of Modena and Reggio Emilia*

h. 11.20 – 11.40 am Coffee Break

Shot Peening in high performance components - *Michele Bandini, Peen Service*

Metal matrix composite materials for hard-wearing applications in the automotive sector - *Paula Cojocar, Luca Magagnin, Milan Polytechnic University, "G.Natta" Department of Chemistry, Materials and Chemical Engineering*

Matching materials and technologies in the construction of a F1 racing car – *Livia Cevolini, CRP Technology*

h. 1 – 2,30 pm Lunch

AM60B magnesium alloy anodic oxidation in electrolytic bath containing titania nanoparticles - *A. Da Forno, Liu Ke, Milan Polytechnic University, "G.Natta" Department of Chemistry, Materials and Chemical Engineering - M. Bestetti, Italian Metallurgy Association*

www.motorsportexpotech.it

promosso da:

assomotoracing

www.assomotoracing.it

organizzato da:

Modena Fiere S.r.l.
viale Virgilio, 58/B - 41100 Modena
tel. 059 848380 - fax 059 848790
www.modenafiere.it
segreteria@motorsportexpotech.it

2nd
edition

ModenaFiere

 BolognaFiereGROUP

High Technologies for now performances of Metals: Hot Isostatic Pressing (HIP) for Aluminum alloys and Kolsterising for Stainless Steels – *Vittorio Bordiga, Bodycote*

Nano-crystalline galvanic structural coatings to improve the performance of metal and polymer materials – *Nicola Belli, MaTech – PST Galileo*

Comparison between the residual tensions induced by super-finishing, vibro-finishing and keramo-finishing cycles – *G. Paolo Marconi, Rosler Italiana srl*

Ucif and associations: commitment, tenacity and passion to stay competitive – *Alessandro Maggioni, UCIF*
Simultaneous translation

HALL 2

ENGINE, DRIVELINE AND VEHICLE: THE CONTRIBUTION OF ELECTRONICS

In collaboration with Bologna University - DIEM – *Coordinator: Prof. Davide Moro*

9.30 am - 1 pm

h. 9 am : Registration of participants

Individual Cylinder Combustion Control based on real-time processing of Ion Current Signal – *Luca Poggio, Ferrari Automobili – Nicolo' Cavina, University of Bologna DIEM*

Non Contact Torque and Force Sensing in Motorsport Applications – *L. May, J. Gießibl, NCTEngineering GmbH*

HW and SW architecture in MultiAir engine management system - *Gabriele Serra, Stefano Sgatti, Magneti Marelli PowerTrain*

Methodologies for the development of “real-time” models for the simulation of automotive turbochargers – *A. Gambarotta, G. Lucchetti, M. Taburri, I. Vaja, University of Parma*

A statistical approach to Spark advance mapping - *Davide Bartoccini, Ducati – Enrico Corti, Alma Automotive*

h. 11.20 – 11.40 am Coffee Break

www.motorsportexpotech.it

promosso da:

assomotoracing

www.assomotoracing.it

organizzato da:

Modena Fiere S.r.l.
viale Virgilio, 58/B - 41100 Modena
tel. 059 848380 - fax 059 848790
www.modenafiere.it
segreteria@motorsportexpotech.it

2nd
edition

ModenaFiere

 BolognaFiereGROUP

Engine development in Motorsports. A process between handicraft work and scientific challenge - *M.*

Chiodi, M. Bargende, FKFS and IVK University of Stuttgart - D. Wichelhaus, Volkswagen Motorsport

Road technology for motorsport: Cylinder pressure based control? On Board Diagnostics? *P. Fussey, Filippo Zanetti, Ricardo*

Application in X-by-Wire Technology: MECTRON Steer-by-Wire - *A. Bertacchini, Intermech, Lab. Mectron*

Calculation and Optimization of a V8 Crankshaft of a Racing Engine – *C. Cevik, VKA, RWTH Aachen University – M.Rebbert, FEV, Aachen*

Simultaneous translation

HALL 2

AERODYNAMICS AT MOTORSPORT EXPOTECH

Round table, in collaboration with Assomotoracing - *Coordinator: Ing. Marco Giachi*

h. 4 – 6 pm

h. 3.30 pm: Registration of participants

Discussion will highlight “downforce” not only with specialist designers but also with track engineers who exploit it to “set” vehicles and, lastly, with the drivers who “have to cope with it”.

Round Table participants:

Dialma Zinelli – Dallara

Lucia Sclafani - Cd-adapco

Giovanni Lombardi – University of Pisa

Thomas Biagi, Gianmaria Gabbiani – drivers

Joseph Katz – University of San Diego

HALL 3

THE USE OF STRUCTURAL ADHESIVES AND LOCKING SYSTEMS IN ENGINEERING DESIGN

Cured by CRIT

h. 2.30 – 6 pm

h. 2: Registration of participants

www.motorsportexpotech.it

promosso da:

assomotoracing

www.assomotoracing.it

organizzato da:

Modena Fiere S.r.l.
viale Virgilio, 58/B - 41100 Modena
tel. 059 848380 - fax 059 848790
www.modenafiere.it
segreteria@motorsportexpotech.it

2nd
edition

ModenaFiere

 BolognaFiereGROUP

h. 2.30: Introduction - CRIT

h. 2.40: Structural adhesives and locking products: a resource for motorsport , *Dr. Piero Mauri, HENKEL*

h. 3.20: Remarks on principles and methods for design of bonded joints and tools and methods for assisted design, *Prof. Alessandro Pirondi, SPRInT - UNIPR Group*

h. 4: Bonding techniques and technologies , *HENKEL*

h. 4.30: Successful cases and debate

h. 5 : End of session

www.motorsportexpotech.it

promosso da:

asso motoracing

www.assomotoracing.it

organizzato da:

Modena Fiere S.r.l.
viale Virgilio, 58/B - 41100 Modena
tel. 059 848380 - fax 059 848790
www.modenafiere.it
segreteria@motorsportexpotech.it

2nd
edition


ModenaFiere

 BolognaFiereGROUP