

2<sup>nd</sup> edition of

**BASS**

BARI AUTOMOTIVE  
SUMMER SCHOOL

*Invitation*



**Isolato 47**  
**September 19 - 22, 2016**  
**Villa Romanazzi Carducci**  
**in Bari, Italy**  
**September 22 - 23, 2016**



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September 22 - 23, 2016

Centro Studi Componenti per Veicoli SpA (BOSCH Group) and Polytechnic Institute of Bari are pleased to invite you to the Closing Conference of the 2<sup>nd</sup> edition of Bari Automotive Summer School.

Closing one week of lectures and testimonials, focused on powertrain, from academic and industrial experts, the conference, on 23<sup>rd</sup> of September, is held providing a platform to share latest information and experiences about current powertrain topics between academic and industrial partners.

We look forward to your participation to make the 2<sup>nd</sup> Bari Automotive Summer School a great success.



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## Program 19.09.2016 - Isolato 47

- ◆ **Registration** 08:00
- ◆ **Welcome:** 09:00  
*Prof. E. Di Sciascio (Politecnico di Bari)*  
*Dr. Ing. A. Arvizzigno (Centro Studi Componenti per Veicoli S.p.A.)*
- ◆ **Keynote Lecture: The vision of Bosch** 09:30  
*Dr. Ing. A. Arvizzigno (Centro Studi Componenti per Veicoli S.p.A.)*
- Coffe Break 10:00
- ◆ **Fuel economy and emission control in Diesel Engines:  
state of the art and future trends.** 10:30  
*Prof. S. Camporeale (Politecnico di Bari)*
- ◆ **CFD modeling of internal combustion engines** 12:00  
*Prof. A. Onorati (Politecnico di Milano)*
- Lunch 13:00
- ◆ **CFD modeling of internal combustion engines** 14:00  
*Prof. A. Onorati (Politecnico di Milano)*
- ◆ **After treatment technologies:  
CFD tool for research and development** 15:00  
*Prof. A. Onorati (Politecnico di Milano)*
- ◆ **Teamwork - Team of Bosch CVIT** 16:00



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**Program 20.09.2016 - Isolato 47**

- ◆ **New technologies and next RDE (Real Drive Emission) regulations** 08:30  
*Ing. A.Vollono (Centro Studi Componenti per Veicoli S.p.A.)*
  
- ◆ **High performance SI engines. Turbocharging and downsizing.** 09:30  
*Prof. F. Bozza (Università Napoli Federico II)*
  
- Coffe Break 10:30
  
- ◆ **High Efficiency SI Engines: Downsizing, EGR and Water Injection** 11:00  
*Prof. F. Bozza (Università Napoli Federico II)*
  
- ◆ **Hybrid propulsion systems for automotive applications** 12:00  
*Prof. N. Cavina (Università di Bologna)*
  
- Lunch 13:00
  
- ◆ **Control and energy optimization of hybrid propulsion systems** 14:00  
*Prof. N. Cavina (Università di Bologna)*
  
- ◆ **Teamwork - Team of Bosch CVIT** 16:00



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## Program 21.09.2016 - Isolato 47 and Bosch – CVIT\*

- ◆ **New Trends in Heavy-duty engines development** 08:30  
*Ing. M.Tortorici (CNH. Industrial)*
- ◆ **Common Rail, pump & injectors: present and future** 09:30  
*Prof. R. Amirante (Politecnico di Bari)*
- Coffe Break 10:30
- ◆ **Fuel injection and diesel spray** 11:00  
*Prof. P. CARLUCCI (Università del Salento)*
- ◆ **Fretting on high pressure pumps valves: problem & solution** 12:00  
*Ing. M.Roncone (Centro Studi Componenti per Veicoli S.p.A.)*
- Lunch 13:00
- ◆ **Visit of CVIT laboratories and test facilities of Bosch CVIT -  
Team of Bosch CVIT** 14:00

\*bus transfer is included



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## Program 22.09.2016 - Isolato 47

- |   |       |
|---|-------|
| ◆ <b>Engine calibration process</b><br><i>C. Bernard (ETAS GmbH)</i>  | 08:30 |
| ◆ <b>Diagnostics and Sensors<br/>for the Control of Internal Combustion Engines</b><br><i>Ingg. S. Di Iorio, E. Mancaruso, P. Sementa, B. M. Vaglieco<br/>(Istituto Motori, CNR Napoli)</i> | 09:30 |
| Coffe Break   | 10:30 |
| ◆ <b>Combustion Study by Optical Diagnostics<br/>in Internal Combustion Engines</b><br><i>Ingg. S. Di Iorio, E. Mancaruso, P. Sementa, B. M. Vaglieco<br/>(Istituto Motori, CNR Napoli)</i> | 11:00 |
| ◆ <b>Combustion Engine performance and emission tests</b><br><i>Ingg. S. Di Iorio, E. Mancaruso, P. Sementa, B. M. Vaglieco<br/>(Istituto Motori, CNR Napoli)</i>                           | 12:00 |
| Lunch   | 13:00 |
| ◆ <b>Teamworks - Team of Bosch CVIT</b>   | 14:00 |
| ◆ <b>Transfer to Villa Romanazzi (transfer is included) ◆</b>   | 16:00 |
| <b>Presentations of the results of teamworks</b>  | 18:30 |



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## Program 22.09.2016

### ■ Registration and Welcome

- ◆ Event Registration 17:30
- ◆ Welcome cocktail 18:30

### ■ Dinner

- ◆ Gala Dinner 20:30

*The dinner will take place in a historical residence surrounded by gardens and centuries old trees two steps away from the centre of Bari*



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**Program 23.09.2016** *(Room Powertrain)*

■ **Plenary Session**

- ◆ Registration 08:30
- ◆ **Welcome:** 09:00  
*A. Arvizzigno (Centro Studi Componenti per Veicoli S.p.A.)*  
*E. Di Sciascio (Politecnico di Bari)*
- ◆ **KeyNote Speech: Future trends for off-highway application** 09:30  
*Dr. Ralf Wirth – Vice President Engineering System & Engineering Coordination CV, OHW, LE (Robert Bosch GmbH)*
- ◆ **Strategy for CV market CR pumps according new emission** 10:00  
*U. Gordon (Centro Studi Componenti per Veicoli S.p.A.)*
- Coffe Break 10:30

■ **Combustion**

- ◆ **Particle Emissions from Port Fuel and Direct Injection Spark-Ignition Engines** 11:00  
*R. Amirante, E. Di Staso\* (Politecnico di Bari),*  
*R.D. Reitz (University of Wisconsin-Madison)*
- ◆ **Advanced Simulation Tools DI-SI Combustion Systems** 11:30  
*G. Bianchi\* (Università di Bologna)*



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■ *(Room Powertrain)*

■ *(Room Design)*

\*: *Speakers*

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**Program 23.09.2016** *(Room Design)*

■ **Measurements & Modeling**

- ◆ **Mesurement of radial force between plunger and cylinder of high pressure pumps** 11:00  
*G. Gorgone\* (Centro Studi Componenti per Veicoli S.p.A.)*
- ◆ **Gas Chromatography and Mass Spectrometry: analysis of fuels and lubricating oils** 11:30  
*M. Salvi\* (Perkin Elmer Italia S.p.A.)*

Coffe Break 10:30



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## Program 23.09.2016 *(Room Powertrain)*

### ■ Combustion

- ◆ **Model-based tuning of combustion control parameters in CI engines** 12:00  
*I. Arsie\*, R. Di Leo, C. Pianese (eProLab - Università degli Studi di Salerno)*
- ◆ **Dual fuel combustion mode an opportunity for future internal combustion engines** 12:30  
*S. Di Iorio\*, E. Mancaruso, P. Sementa, B.M.Vaglieco (CNR Istituto Motori)*
- Lunch 13:00

### ■ Application

- ◆ **The significance of combustion development for heavy duty engines: From cash cow to racehorse** 14:00  
*J. Wengert\*, Andreas Sommermann, Dirk Weberskirch (MAN Truck & Bus AG)*
- ◆ **Exhaust gas treatment technologies for marine diesel engines to comply with IMO Tier III** 14:30  
*B. Buchholz\* (Forschungszentrum für Verbrennungsmotoren und Thermodynamik Rostock GmbH)*



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■ *(Room Powertrain)*

■ *(Room Design)*

\*: *Speakers*

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## Program 23.09.2016 *(Room Design)*

### ■ Measurements & Modeling

- ◆ **Modelling physical components for automotive in Simulink** 12:00  
*M. Dalbard\* (The Mathworks S.r.l.)*
- ◆ **Customized application for variable fill pumps' control** 12:30  
*A.Gattone\* (National Instruments Italy S.r.l.)*
- Lunch 13:00

### ■ Technologies

- ◆ **Wet sealing Process Design for electro-mechanical components** 14:00  
*F. Amoruso\* (Tecnologie Diesel Italia S.p.A.)*
- ◆ **Dynamic Sealing Technologies for Internal Combustion Engines** 14:30  
*U. Ansaldi\* (Freudenberg Sealing Technologies S.a.s.)*



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## Program 23.09.2016 *(Room Powertrain)*

### ■ Application

- ◆ **Connected machines solutions from a supplier perspective** 15:00  
*A. Warta\*, C. Seitz, M. Hackner, W. Lehle (Robert Bosch GmbH)*
- ◆ **E-mobility testing at NTC** 15:30  
*G. Dazzi\* (Nardò Technical Centre - Porsche Engineering GmbH)*
- Coffe Break 16:00

### ■ Simulation

- ◆ **EVAP System Fluid-Dynamics and Chemistry Modelling for EMS Purge Control Development and Optimization** 16:30  
*E. Pautasso\*, E. Servetto, E. Graziano (POWERTECH Engineering S.r.l.), L. Smith, A. Hussain, (Jaguar Land Rover Ltd.), J. Brown (Gamma Technologies LLC)*
- ◆ **Use of data based models to predict any driving cycles** 17:00  
*T. Huber\*, N. Deflorio (ETAS GmbH)*
- ◆ **EXCITE for Turbocharger Rotor Dynamics Simulation** 17:30  
*C. L. Raia\* (AVL Italia S.r.l.)*
- Closing and Greetings 18:00



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■ *(Room Design)*

\*: *Speakers*

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## Program 23.09.2016 *(Room Design)*

### ■ Technologies

- ◆ **Low Pressure Plasma technology for product innovation in the Automotive Industry: a winning move** 15:00  
*N. Rossini\*, M. R. Belviso, V. Bonasia (Plasmapps S.r.l.)*
- ◆ **Thermal methods for mechanical characterisation of materials and automotive components control and qualification** 15:30  
*U. Gaglietti\* (Politecnico di Bari)*
- Coffe Break 16:00

### ■ Pumps Development

- ◆ **High Pressure Pump filling efficiency improvements** 16:30  
*D. De Gennaro\*, A. Lamorte (Centro Studi Componenti per Veicoli S.p.A.)*
- ◆ **Corrosion on solenoids of proportional controlling valve** 17:00  
*M. Marcolivio\* (Centro Studi Componenti per Veicoli S.p.A.)*
- ◆ **Cavitation on high pressure pumps valves: problem, simulation and solution** 17:30  
*M. Lacatena\*, L. Fiorentino\* (Centro Studi Componenti per Veicoli S.p.A.)*
- Closing and Greetings 18:00



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**BASS scientific cometees**

Prof. Riccardo Amirante - Politecnico di Bari

Prof. Sergio Camporeale - Politecnico di Bari

Ing. Uwe Gordon, Bosch – Centro Studi Componenti per Veicoli

Ing. Paolo Ciccarese, Bosch – Centro Studi Componenti per Veicoli

Ing. Alberto Diano, Bosch – Centro Studi Componenti per Veicoli

Ing. Sebastian Fischer, Bosch – Centro Studi Componenti per Veicoli

