BASS

BARI AUTOMOTIVE SUMMER SCHOOL

COURSE PROGRAM

Isolato 47 - Politecnico di Bari
in Bari, Italy
September 21-24, 2015

Grande Albergo delle Nazioni
in Bari, Italy
September 25th, 2015

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BARI AUTOMOTIVE SUMMERSCHOOL

September 25th, 2015

Centro Studi Componenti per Veicoli SpA (BOSCH Group) and Polytechnic Institute of Bari are pleased to invite you to the 1st edition of Bari Automotive Summer School.

Closing one week of lectures and testimonials, focused on powertrain, from academic and industrial experts, the conference, on 25th 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 1st Bari Automotive Summer School a great success.

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BARI AUTOMOTIVE SUMMER SCHOOL

1st edition

Bari, 21-25 September 2015

Final Program

September 21th – Isolato 47

8:00-9:00	**Registration**
9:00-9:30	**Welcome address from the Rector of Politecnico di Bari, prof. E. Di Sciascio and from the CEO of BOSCH-CVIT, Dr. Eng. Antonio Arvizzigno**
9:30-10:00	**Keynote Lecture: Research and Development Trends in Diesel Engines**
	Dr. Eng. Antonio Arvizzigno (BOSCH-CVIT)
10:00-10:30	**Keynote Lecture: The development of the Common Rail in Apulia**
	Dr. Mario Ricco (Consorzio MEDIS)
10:30-11:00	**Coffee Break**
11:00-13:00	**Computational Fluid Dynamic Modeling of IC Engines**
	Prof. Angelo Onorati (Politecnico di Milano)
13:00-14:00	Lunch
14:00-16:00	**Coupled 1D-3D Simulations of IC Engines:**
	Examples of Application to Intake and Exhaust Systems
	Prof. Angelo Onorati (Politecnico di Milano)
16:00-18:00	**Teamwork**

September 22th – Isolato 47

8:30-9:30	**Keynote Lecture: New Trends in Heavy-duty engines development**
	Dr. Massimo Tortorici (FPT –Fiat Powertrain Technology Industrial, Torino)
9:30-10:30	**1D and 3D Simulations of After-Treatment Systems**
	Prof. Angelo Onorati (Politecnico di Milano)
10:30-11:00	**Coffee Break**
11:00-12:00	**1D and 3D Simulations of SCR After-Treatment Systems for Diesel Engines**
	Prof. Angelo Onorati (Politecnico di Milano)
12:00-13:00	**Low Emission SI Turbo GDI Engines**
	Prof.Gian Marco Bianchi (Università di Bologna)
13:00-14:00	Lunch
14:00-16:00	**CFD simulation of High Efficiency Low Emission GDI engine**
	Prof.Gian Marco Bianchi (Università di Bologna)
16:00-18:00	**Teamwork**

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September 23th – Isolato 47

8:30-9:30	**Multi-zone modeling of combustion and emissions in Diesel Engines** Prof. Cesare Pianese, Prof. Ivan Arsie (Università di Salerno)
9:30-10:30	**Model-based design of Diesel control strategies** Prof. Cesare Pianese, Prof. Ivan Arsie (Università di Salerno) **–**
10:30-11:00	**Coffee Break**
11:00-12:00	**Combustion control in diesel Engines** Roberto Saracino - Bosch CVIT - Bari
12:00-13:00	**Fuel economy and emission control in Diesel engines** *Prof. Camporeale (PoliBa)*
13:00-14:00	Lunch
14:00-15:00	**Evolution of Fuel pump and injection systems** *Prof Amirante (PoliBa)*
15:00-16:00	**Exhaust Gas Treatment (EGT) systems** *M.R. Gaballo -Bosch – CVIT*
16:00-18:00	**Teamwork**

September 24th – Isolato 47 and Bosch – CVIT (bus transfer is included)

8:30-9:30	**Best practice tools in engine calibration process** Christophe Bernard (ETAS Gmbh, Italy)
9:30-10:30	**Diesel Spray** Prof. Antonio Ficarella - Unisalento
10:30-11:00	**Coffee Break**
11:00-12:00	**Diesel Combustion Study by Optical Diagnostics** **B.M.**Vaglieco, Istituto Motori, CNR-Napoli, Italy
12:00:13:00	**Diagnostics and Sensors for the Control of Internal Combustion Engines** **S. Di Iorio, E. Mancaruso, P.Sementa, B. M. Vaglieco-** Istituto Motori, CNR-Napoli,
13:00-14:00	Lunch
14:00-16:00	***Visit of CVIT laboratories and test facilities of Bosch – CVIT*** *Team of Bosch – CVIT*
16:00-18:00	**Presentations of the results of teamworks**
20:30 -	**Gala Dinner at Grand Hotel delle Nazioni**

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September 25th, 2015

Program 25.09.2015

■ **Registration and Welcome**

- ◆ Registration   08:00
- ◆ **Welcome and Opening**   08:45
  A. Arvizzigno - CEO of Centro Studi Componenti per Veicoli S.p.A.
  E. Di Sciascio - Rector of Politecnico di Bari

■ **Simulation**

- ◆ **CFD analysis of VVA effects in heavy-duty engines**   09:15
  S. Camporeale – Politecnico di Bari

- ◆ **Development and assessment of a Fully-Physical 0D**   09:45
  Fast Running Model of an E6 passenger car Diesel engine
  for ECU testing on aHardware-in-the-loop system
  E. Servetto – Powertech Engineering Srl

  Coffe Break   10:15

■ **Application**

- ◆ **Emission and Fuel Consumption Optimized Turbo**   10:45
  Charging of Passenger Car Diesel Engines
  H. Kauss – Robert Bosch GmbH

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- **Testing at Nardò Technical Center**   11:15
  E. Sander – Nardò Technical Center S.r.l. (Porsche Engineering Group GmbH)

- **Diagnostics and Diagnosis in Internal Combustion Engine**   11:45
  B.M. Vaglieco – CNR Istituto motori

- **Towards new combustion concepts: the role of injection**   12:15
  system on effective combustion of alternative and renewable fuels
  P. Carlucci – Università del Salento

- **Atomizers for Fuel Injection**   12:45
  P. Leick – Robert Bosch GmbH

  Lunch   13:15

■ **Controls**

- **Cylinder Pressure-Based Function: Overview, Benefits**   14:15
  and Algorithm Consideration
  G. Toto – Centro Studi Componenti per Veicoli SpA

- **Multi-objective optimization of architectures and**   14:45
  supervisory controllers for hybrid electric vehicles
  T. Donateo – Università del Salento

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- **Adaptive Model-based Common Rail Control**   15:15
  M. Bitzer – Robert Bosch GmbH

  Coffe Break   15:45

■ **Design**

- **Contact, lubrication and friction of microstructured**   16:15
  and rough surfaces
  G. Carbone – Politecnico di Bari

- **Trends on materials and thermal treatments for**   16:45
  common rail high-pressure applications
  A.Grimaldi – Centro Studi Componenti per Veicoli SpA

- **Optimization of housing manufacturing line by**   17:15
  development of combined process steps, resulting in leaner
  production concept and reduction of costs
  P. Nestola, M. Cilenti – Tecnologie Diesel e Sistemi Frenanti SpA

■ **Closing and Greetings**

- **Closing by the organization committee**   17:45

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COURSE LOCATIONS