



VIII INTERNATIONAL CONGRESS ON COMBUSTION ENGINES

POLISH SCIENTIFIC SOCIETY
OF COMBUSTION ENGINES

17th-18th June 2019

www.congress.ptnss.pl

Preliminary Programme

CRACOW University of Technology

31-155 CRACOW, Warszawska 24 Street, POLAND

PTNSS – 2019

CONGRESS SCHEDULE

17.06.2019 Monday		18.06.2019 Tuesday	
9.00 – 9.10	OPENING CEREMONY Conference Center, Congress Room XX		PLENARY SESSION IV Fuel development and its impact on engine technology Conference Center, Congress Room 4
9.10 – 11.10	PLENARY SESSION I Global LDV/HD exhaust emissions development Conference Center, Congress Room 4	9.00 – 11.30	
11.10 – 11.50	Coffee break	11.30 – 12.10	Coffee break
11.50 – 14.30	PLENARY SESSION II Powertrain technology development (light duty) Conference Center, Congress Room 4	12.10 – 14.20	PLENARY SESSION V Testing requirements/methodologies – impact on powertrain development Conference Center, Congress Room 4
14.30 – 15.30	LUNCH Conference Center	14.20 – 14.30	CLOSING CEREMONY Conference Center, Congress Room 4
15.30 – 18.10	PLENARY SESSION III Powertrain technology development (heavy duty & NRMM) Conference Center, Congress Room 4	14.30 – 15.30	LUNCH Congress Center
		For people who confirmed participation	
		16.00	Travel by bus from Cracow University of Technology
19.00	Gala dinner "Czeczotka" Palace – Main Square (Anna street and Wiślina street)	17.00	River harbor on the Vistula near Wawel – a cruise to Tyniec
		19.00	Dinner in "Tyniec Terraces"

SESSIONS SCHEDULE

Monday – 17th June 2019

9.00 – 9.10 **Opening Ceremony**

9.10 – 11.10 **Plenary Session I**
Global LDV/HD exhaust emissions development

Les HILL
Horiba, UK

GLOBAL TRENDS IN EMISSIONS LEGISLATION

Piotr BIELACZYC
BOSMAL Automotive R&D Institute Ltd,
Poland

GLOBAL TRENDS IN VEHICULAR EMISSIONS REGULATIONS, CURRENT “HOT TOPICS” AND THEIR IMPACT ON POWERTRAIN TECHNOLOGY – INTRODUCTION TO THE SUBJECT

Victor Valverde-MORALES
European Commission, JRC, Italy

OVERVIEW OF THE LIGHT-DUTY VEHICLES TAILPIPE EMISSIONS REGULATIONS IN THE EU: CURRENT STATUS AND UPCOMING TYPE-APPROVAL AND MARKET SURVEILLANCE SCHEMA

Ameya JOSHI
Corning, USA

OVERVIEW OF TECHNOLOGIES FOR NEAR-ZERO TAILPIPE EMISSIONS FROM LIGHT- AND HEAVY-DUTY VEHICLES

11.10 – 11.50 **Coffee Break**

11.50 – 14.30 **Plenary Session II**
Powertrain technology development (light duty)

Jerzy MERKISZ
Poznan University of Technology,
Poland

DEVELOPMENT TRENDS IN ROAD TRANSPORT POWERTRAINS

Hubert FRIEDL
AVL, Austria

HIGHEST EFFICIENCY AND ULTRA-LOW EMISSION – INTERNAL COMBUSTION ENGINE 4.0 FOR NEXT DECADE

Marcos Alonso BAEZ
Nissan Technical Centre, Spain

INVESTIGATION OF THE MECHANISM OF THE SOOT IN OIL CONTAMINATION: OVERTAKING THE LIMITS OF THE COMBUSTION

Kohei NAKASHIMA
Yosuke UCHIYAMA
Meijo University, Japan

EXPERIMENTAL DEVELOPMENT OF APPARATUS TO MEASURE PISTON ASSEMBLY FRICTION IN AN ECO-MILEAGE VEHICLE ENGINE

Steve WHELAN
Phil ROBERTS
Horiba Mira Ltd, UK

MEETING THE DEMANDS OF FUTURE POWERTRAIN TEST & DEVELOPMENT WITH AN INTEGRATED RDE+ ROAD-TO-RIG APPROACH

Luciano ROLANDO
Alessandro ZANELLI
Federico MILLO
Politecnico di Torino, Italy

POTENTIAL OF ELECTRIC SUPERCHARGING FOR PERFORMANCE AND FUEL ECONOMY ENHANCEMENT OF PASSENGER CAR GASOLINE ENGINES

14.30 – 15.30 **Lunch**

15.30 – 18.10

Plenary Session III

Powertrain technology development (heavy duty & NRMM)

Yuzo AOYAGI

*Okayama University/New A.C.E.
Institute Co., Ltd., Japan*

**EFFECTIVE NO_x AND PM REDUCTION BY MEANS
OF FLAME TEMPERATURE MEASUREMENT IN A SINGLE
CYLINDER DIESEL ENGINE**

Kurt ENGELJEHRINGER

AVL, Austria

TBC

Stefano GOLINI

CNH Industrial, Italy

**NG ENGINES AS A MEANS FOR AN INCREASINGLY
SUSTAINABLE POWERTRAIN**

Adolfo PERUJO

Pierre BONNEL

Roberto GIORIA

Barouch GIECHASKIEL

European Commission, JRC, Italy

**LARGE AND SMALL ENGINES: OVERVIEW
OF THE HEAVY-DUTY VEHICLES AND NON-ROAD MOBILE
MACHINERY TAILPIPE EMISSIONS REGULATIONS
IN THE EU**

Toni KINNUNEN

Proventia, Finland

**ENGINE-INTEGRATED OFF-ROAD STAGE-V
AFTERTREATMENT SYSTEM**

Maciej JASKIERNIK

Konrad BUCZEK

Jędrzej WALKOWIAK

FEV, Poland/Germany

**SIMULATION OF THE OIL SUPPLY THROUGH
THE CONNECTING ROD TO THE PISTON COOLING
CHANNELS IN MEDIUM SPEED ENGINES**

Tuesday – 18th June 2019

9.00 – 11.30 Plenary Session IV

Fuel development and its impact on engine technology

Christopher KOLODZIEJ
Toby ROCKSTROH
Alexander HOTH
Jorge PULPEIRO
Ashish SHAH
Stephan SCHNEIDER
Argonne National Laboratory, USA

GASOLINE COMPOSITION EFFECTS ON KNOCKING CHARACTERISTICS BETWEEN THE CFR RON TEST ENGINE AND A MODERN GDI ENGINE

Tadeu Cordeiro de MELO
Helinea Oliveira GOMES
Marcia Figueiredo MOREIRA
Pedro Caffaro VICENTINI
Petrobras, Brazil

INFLUENCE OF BIODIESEL BLENDS ON THE EMISSIONS OF DIFFERENT ENGINE TECHNOLOGIES

Cecile PERA
Convergent Science, Austria

HOW ENGINE TECHNOLOGY AND FUEL PROPRIETIES CAN BE OPTIMISED THANKS TO CFD

Hu LI
Yanlong WU
Gordon ANDREWS
University of Leeds, UK

COMBUSTION AND EMISSIONS OF ALTERNATIVE FUELS IN A DIESEL ENGINE

Yuri KROYAN
Michal WOJCIESZYK
Martti LARMI
Ossi KAARIO
Aalto University, Finland

MODELING THE EFFECT OF FUEL PROPERTIES ON END-USE ENGINE PERFORMANCE

11.30 – 12.10 Coffee Break

11.30 – 14.00 Plenary Session IV

Testing requirements/methodologies – impact on powertrain development

Matthew BERRY
David MILLER
3DATX, USA

THE DEMOCRATIZATION OF VEHICLE EMISSIONS TESTING

Xin WANG
Beijing Institute of Technology, China

RDE REGULATION AND PRACTICE IN CHINA

Daisy THOMAS, Hu LI
Xin WANG, Karl ROPKINS
Chris BANNISTER, Allen COX
Alison TOMLIN
University of Leeds, UK

TAILPIPE EXHAUST PARTICLE SIZE DISTRIBUTION FROM A HYBRID CAR

Lucia BUSTIN
TSI, Germany

VARIABLE PARTIAL FLOW DILUTION AND CONDITIONING SYSTEM FOR TSI ENGINE EXHAUST PARTICLE SIZER

Joachim DEPPE
LaVision GmbH, Germany

TURN-KEY „INSPEX” SYSTEMS FOR INDUSTRIES TO QUANTIFY OPTICALLY SPRAY & COMBUSTION PHENOMENA AND TO ANALYZE MATERIAL CHARACTERISTICS BY DIC

14.20 – 14.30 Closing Remarks

14.30 – 15.30 Lunch

