PTNSS 2021 Congress programme at a glance

26.09.2021 Sunday		27.09.2021 Monday		28.09.2021 Tuesday	
		8:00-9:00	**Registration** The Eastern Innovation Centre of Architecture in Lublin		
		9:00-9:10	**Opening ceremony**	9:00-11:00	**Session 4** Powertrain electrification and new engine concepts
		9:10-11:30	**Keynote 1** **Session 1** Green Deal, Fit for 55 and Euro 7/VII influence on powertrains' development		
		11:30-12:00	**Coffee break**	11:00-11:30	**Coffee break**
		12:00-13:30	**Keynote 2** **Session 2** Powertrain technology development	11:30-13:30	**Session 5** Powertrain technology and fuel development for different applications
		13:30-14:30	**Lunch** Lanczomania	13:30-14:30	**Lunch** Lanczomania
		14:30-16:30	**Session 3** Advanced combustion and alternative fuels	14:30-16:50	**Session 6** Powertrain technology and test method development
		16:30-17:30	**Poster session**	16:50-17:00	**Closing ceremony**
		17:30-19:00	**Break**	17:00-18:00	**Break**
16:00-20:00	**REGISTRATION** The Eastern Innovation Centre of Architecture in Lublin	19:00-24:00	**Gala dinner** Hotel Ibis Styles, Aleja Solidarności 7	18:00-19:30	**Visit to Lublin Old Town**
				20:00-24:00	**Barbecue** Legendy Miasta Restaurant, Aleja Solidarności 7

Tentative programme

Monday **9:00-9:10**	**Opening Ceremony**

Monday **9:10-10:00**	**Keynote 1**
Piotr Szymański *EC JRC Director, The Netherlands*	The future of road transport in Europe. Environmental implications of automated, connected and low-carbon mobility

Monday **10:00-11:30**	**Session 1** Green Deal, Fit for 55 and Euro 7/VII influence on powertrains' development
Piotr Bielaczyc *BOSMAL, Poland*	Global trends in vehicular emissions legislation with a special focus on further stages (EU 7/VII and China 7/VII) - associated development of ICE/hybrid/EV powertrain technologies and testing methodologies for LD, HD and NRMM sectors
Kurt Engeljehringer *AVL, Austria*	EU-7 challenge and how to master it
Barouch Giechaskiel *EC JRC, Italy*	Current and future particle number regulations

Monday **12:00-12:30**	**Keynote 2**
Thomas Koch *Karlsruhe Institute of Technology, Germany*	Vehicle technology paths towards low CO_2 emissions. Assessment of solutions. Potential of reFuels and political situation (virtual)

Monday **12:30-13:30**	**Session 2** Powertrain technology development
Phil Roberts *Horiba-MIRA, UK*	A road to rig development methodology for whole vehicle RDE compliance: engine-in-the-loop replication and emulation
Alessandro Zappia *EC JRC, Italy*	JRC projects on heavy-duty vehicles in a climatic chassis dynamometer and on the road

Monday	**Session 3**
14:30-16:30	Advanced combustion and alternative fuels

Liping Yang, Zhenting Liu, Jiaqi Wang, Yueying Zhu *Harbin Engineering University, China* Jacek Hunicz, Grzegorz Litak *Lublin University of Technology, Poland*	Investigation on combustion and emissions of a marine diesel-natural gas RCCI engine (virtual)
Rafał Longwic, Przemyslaw Sander, Dawid Tatarynow *Lublin University of Technology, Poland*	Ecological aspects of using mixtures of canola oil with n-hexane in Diesel engine
Jacek Hunicz, Michał Gęca, Arkadiusz Rybak *Lublin University of Technology, Poland* Paweł Krzaczek *University of Life Sciences in Lublin, Poland* Maciej Mikulski *University of Vaasa, Finland*	Dedicated engine calibration for partially premixed combustion of renewable fuels
Tomas Mickevicius, Gvidonas Labeckas, Stasys Slavinskas *Vytautas Magnus University, Lithuania*	Experimental investigation biodiesel-n-butanol fuels blends on performance and emissions in the diesel engine
Andrzej Sobiesiak, Jeff Canape *University of Windsor, Canada*	Performance of a small indirect-injection diesel engine with intermetallic thermal barrier coated pistons
Jacek Czarnigowski, Piotr Jakliński, Piotr Karpiński *Lublin University of Technology, Poland*	Combustion in the large aircraft piston engine with a dual spark ignition system

Tuesday	**Session 4**
9:00-11:00	Powertrain electrification and new engine concepts

Hartwig Busch, Joschka Schaub *FEV, Germany*	Tailored emission control concept for diesel-hybrid powertrains in the light commercial vehicle class
Andrzej Szałek *Toyota Motor Poland*	Vehicle propulsion system development up to 2050
Kohei Nakashima *Meijo University, Japan*	Influence of piston surface treatment on piston assembly friction in an eco-mileage vehicle engine
Stanisław Szwaja *Częstochowa University of Technology, Poland*	IC engine with Szymkowiak cycle and variable compression ratio

Tuesday	**Session 5**
11:30-13:30	Powertrain electrification and new engine concepts

Maciej Mikulski *University of Vaasa, Finland*	Clean propulsion technologies – a Finnish response to tightening emission legislation in marine and off-road segments
Miroslaw Wendeker *Lublin University of Technology, Poland*	Aircraft piston engines: development trends, challenges and opportunities
Joseph Woodburn *BOSMAL, Poland*	Role of ammonia as an SCR reagent, pollutant and potential engine fuel
Chris Kolodziej *Argonne National Lab, USA*	Summary of engines and fuels research in the United States (virtual)

Tuesday	**Session 6**
14:30-16:50	Powertrain technology and test method development

Ashish Vashishtha, *Institute of Technology Carlow, Ireland*	Turbulent jet ignition of premixed methane air mixture with hydrogen enrichment (virtual)
Saana Hautala, Maciej Mikulski, Emma Soderang, Xiaoguo Storm, Seppo Niemi *University of Vaasa, Finland*	Towards a digital twin of a mid-speed marine engine: from detailed 1D engine model to real-time implementation on a target platform (virtual)
Oleh Klyus, Przemysław Rajewski, *Maritime University of Szczecin, Poland* Sergejus Lebedevas *Klajpeda University, Lithuania* Sławomir Olszowski *Radom University, Poland*	Determination of fuel atomization quality in compression ignition engines using acoustic emission signal
Mateusz Kmieć, Matthias Weber *Roben Automotive, Poland* Marcel Romijn *Roben Automotive, The Netherlands* Dave Mathews *Roben Automotive, US*	Application of automotive safety design methodologies to the development of Euro7 emission control systems including On Board monitoring
Piotr Wiśniowski, Anna Borucka, Maciej Menes, Andrzej Świderski *Motor Transport Institute, Poland*	Evaluation of the CO2 emission from motor vehicles in the context of sustainable transport development
Aleksandra Kęska, Anna Janicka *Wrocław University of Science and Technology, Poland*	Evaluation of toxicity of hydrocarbons emitted by vehicles meeting Euro 3 and Euro 6 emission standards by means of equivalent toxicity coefficients
Wojciech Cieślik *Poznań University of Technology, Poland*	Research capabilities of modern combustion systems

Poster Session

Monika Andrych-Zalewska, Jerzy Merkisz, Jacek Pielecha	The influence of the heating time of a catalyst-covered glow plug on the exhaust emissions from a diesel engine
Maciej Andrzejewski, Mateusz Nowak, Aleksandra Woch, Natalia Stefańska	Analysis of pollutant emissions and fuel consumption for the use of a multi-storey carpark
Karolina Batura, Marek Waligórski	Methodological basis of road acoustic researches
Michał Biały, Łukasz Grabowski, Bartłomiej Skórzyński, Grzegorz Barański, Adam Majczak	Analyzing mechanical vibrations of an aircraft opposed piston engine
Artur Bogdanowicz, Tomasz Kniaziewicz, Ryszard Zadrąg	The emission of harmful compounds from the marine diesel engine fueled by a blend of n-butanol and marine fuel
Marek Brzeżański, Michał Mareczek, Marcin Noga	The concept of a maintenance-free drive-thru inspection station for commercial vehicles
Zbigniew Chmielewski	Assessment of the kinetics of changes in selected physicochemical indicators of engine oil in operation
Zbigniew Chmielewski	Cylinder liner wear as a function of selected physicochemical indicators of engine oil
Janusz Chojnowski, Mirosław Karczewski	The structure of Polish road transport (types of fuel system supplies in used road tractor units) in terms of selecting an engine for the development modern dual fuel diesel/CNG installation
Janusz T. Cieśliński, Jan Krzyżak, Jacek Kropiwnicki, Zbigniew Kneba	Experiments on compression ignition engine powered by nano-fuels
Jerzy Cisek, Andrzej Borowski, Joanna Całkowska, Łukasz Wichary	Effect of nitrON® cetane-detergent additive to B7 fuel on energy parameters and exhaust gas composition of a 6Dg locomotive with a Caterpillar C27 engine
Jacek Czarnigowski, Daniel Rękas, Karol Ścisłowski, Michał Trendak, Krzysztof Skiba	Analysis of operating parameters of the aircraft piston engine in real operating conditions
Paweł Daszkiewicz, Maciej Andrzejewski, Marian Medwid, Patryk Urbański, Maksymilian Cierniewski, Aleksandra Woch, Natalia Stefańska	Analysis of the selection of chosen technical parameters of the powertrain system for a diesel-electric rail-road tractor
Paweł Daszkiewicz, Marian Medwid, Maciej Andrzejewski, Patryk Urbański, Maksymilian Cierniewski, Aleksandra Woch, Natalia Stefańska	Analysis of the selection of chosen technical parameters of the powertrain system for a diesel-electric rail-road tractor

Poster Session

Tadeusz Dziubak, Leszek Bąkała	Problems of selecting filter partition in passenger car engine intake air filters
Joanna Faber, Krzysztof Brodzik, Marta Nycz	Understanding technical cleanliness: importance, assessment, maintenance
Mariusz Furmanek, Jacek Kropiwnicki	Stirling engines - the state of technology development and computational models
Michał Gęca, Gojmir Radica	Effect of compression ignition engine preheating on its performance under cold start conditions
Michał Głogowski	Four-stroke engine with pneumatic energy accumulator - simulations and experiments
Krzysztof Górka, Bartosz Kaźmierski, Łukasz Kapusta	Numerical analysis of the flow rig for UWS spray examination in exhaust system-relevant conditions
Artur Jaworski, Kazimierz Lejda	Effect of driving resistances on energy demand and exhaust emission in motor vehicles
Tomasz Kalociński	Modern trends in development of alternative powertrain systems for non- road machinery
Maciej Kalwara, Michał Kuźniar, Marek Orkisz	A rotating piston engine with electric generator in serial hybrid propulsion system for use in light aircraft
Michalina Kamińska, Maciej Andrzejewski, Paweł Daszkiewicz	Research of ecological indicators of two-way vehicle in stationary conditions
Michalina Kamińska, Daniel Kołodziejek, Natalia Szymlet, Paweł Fuć, Rafał Grzeszczyk	Measurement of rail vehicles exhaust emissions
Wojciech Karpiuk, Maciej Bajerlein, Marek Idzior, Rafał Smolec	Volumetric losses of the compression process in a hypocycloidal pump in the light of the gas desorption effect
Andrzej Kaźmierczak	Team durability test of a 1.3 mw locomotive diesel engine with prototype piston rings
Bartosz Kaźmierski, Krzysztof Górka, Łukasz Kapusta	A conceptual design and numerical analysis of the mixerless urea-SCR system
Zbigniew Kneba, Denys Stepanenko, Jacek Rudnicki	Numerical methodology for evaluation the combustion and emissions characteristics on WLTP in the light duty dual-fuel diesel vehicle
Rafał Krakowski	Research on the effect of the effective microorganisms, silver solution and colloidal nanosilver addition on the engine oil base number (TBN)
Rafał Krakowski	Research on the effect of the effective microorganisms, silver solution and colloidal nanosilver addition on the engine oil acid number (TAN)

Poster Session

Kacper Kuta, Ebrahim Nadimi, Grzegorz Przybyła, Zbigniew Żmudka, Wojciech Adamczyk	Ammonia CI engine aftertreatment systems design and flow simulation
Piotr Laskowski, Magdalena Zimakowska-Laskowska, Damian Zasina, Marcin Wiatrak	Comparative analysis of the emissions of carbon dioxide and toxic substances emitted by vehicles with ICE compared to the equivalent emissions of BEV
Piotr Laskowski, Magdalena Zimakowska-Laskowska, Damian Zasina, Marcin Wiatrak	Modelling of the air pollutants' cold-start emissions depending on average vehicles' speed
Jarosław Mamala, Andrzej Bieniek, Krzysztof Prażnowski, Mariusz Graba, Krystian Hennek, Szymon Kołodziej, Bartosz Mazurek, Maciej Sproch	Evaluation of energy consumption in the acceleration process of a passenger car
Jarosław Mamala, Mariusz Graba, Andrzej Bieniek, Krzysztof Prażnowski, Krystian Hennek	Energy consumption of a passenger car with a hybrid powertrain in real traffic conditions
Maciej Menes	Two decades of HEVs' (hybrid electric vehicle) market
Maciej Menes	Program initiatives of public authorities in the field of hydrogenation of the economy in a global perspective, as of the end of 2020
Mateusz Nowak	Calibration of micro-simulation model in assessment of passenger car exhaust emission during acceleration
Marek Orkisz, Karolina Pazura	Experimental determination of compressor map of the DGEN 380 engine compressor using the WESTT CS/BV turbine engine simulator
Ireneusz Pielecha, Maciej Sidorowicz	Effects of mixture formation strategies on combustion in dual-fuel engines - a review
Wojciech Poprawski, Mieczysław Struś	Efficiency of the diesel engine fuelled with the advanced biofuel Bioxdiesel
Grzegorz Przybyła, Łukasz Ziółkowski, Mateusz Buczak, Zbigniew Żmudka	The tests of micro CHP prototype with SI engine powered by LPG and natural gas
Józef Pszczółkowski	Description of acid battery operating parameters
Józef Pszczółkowski	The model for cylinder charge parameters during engine starting
Patrycja Puzdrowska	Application of the F-statistic of the Fisher-Snedecor distribution to analyze the significance of the effect of changes in the compression ratio of a diesel engine on the value of the specific enthalpy of the exhaust gas flow

Poster Session

Ksenia Siadkowska, Błażej Czajka, Karol Ścisłowski, Mirosław Wendeker	Analysis of propulsion units dedicated to test stands for aviation systems
Maciej Siedlecki, Jerzy Merkisz, Michał Dobrzyński, Kamil Kubiak	Impact of the use of comfort devices on the exhaust toxic compounds from a modern PC car with spark ignition engine
Lech Sitnik	Operational energy footprint of vehicle
Zbigniew Sroka, Srinath Prakash, Radoslaw Wlostowski	Design of the turbocharger bearing arrangement to increase the overall efficiency of the combustion engine
Grzegorz Szamrej, Mirosław Karczewski, Janusz Chojnowski	A review of technical solutions for RCCI engines
Mateusz Szramowiat, Andrzej Szałek	Analysis of the operation of the hybrid drive system in the light of the proposed Euro7 standard
Natalia Szymlet, Michalina Kamińska, Piotr Lijewski, Łukasz Rymaniak, Przemysław Tutak	Use of toxicity indicators related to CO2 emissions in the ecological assessment of an two-wheel vehicle
Bartłomiej Urbański, Grzegorz Przybyła	Hybrid drivetrain systems 48V in rally cars
Jerzy Walentynowicz	The aircraft engines in the land vehicles
Andrzej Wolff, Grzegorz Koszałka	Influence of engine load on piston ring pack operation of an automotive IC engine
Zbigniew Wołczyński	Examples of the use of the embedded systems for the long-term collection of slowly-changing parameters in the traction of a car
Zbigniew Wołczyński, Mikołaj Żak	SI engine fuel mixture type indicator and an assessment of its suitability of an economic driving style
Marek Wozniak, Gustavo Ozuna, Krzysztof Siczek	Problems with glow plug
Radosław Wróbel, Gustaw Sierzputowski, Piotr Haller, Veselin Mihaylov, Radostin Dimitrov	The vehicle driver safety prediction system
Marcin Zacharewicz, Tomasz Kniaziewicz	Model tests of a marine diesel engine powered by a fuel-alcohol mixture
Andrzej Ziółkowski, Paweł Fuć, Aleks Jagielski, Maciej Bednarek	Analysis of emissions and fuel consumption from forklifts by location of operation
Zbigniew Żmudka, Stefan Postrzednik	Improving the effective efficiency of a spark ignition engine through the use of a fully independent valve control system