

CO₂ Reduction for Transportation Systems Conference @ MAUTO - Torino

Tuesday - June 9, 2026 (morning)			
8.30		Registration	
9.00		Opening Welcome Address & Plenary Keynotes @Auditorium Chairperson: Christof Schernus, FEV Europe GmbH	
09.00-9.10	- Federico Millo - SAE Torino - Giuseppe Bonollo- ANFIA		
09.10-10.40	- A Sustainable Future of Powertrain Diversity in a Worldwide Changing Political and Economic Landscape - André Casal Kulzer, FKFS / IFS University of Stuttgart - CO2 Reduction in the Transport Sector from a Global Perspective - Marc Sens, IAV - The New Carbon Playbook: Impact of recent U.S. Policy Changes on Market and Technology Outlook for Clean & Resilient Transportation - Ameya Joshi, MobilityNotes - Q&A Session		
Coffee Break @Exhibition Area			
Parallel Sessions			
	AUDITORIUM	SALA 150	SALA VETRATA
	Hybridization & Electrification Chairpersons: Vittorio Ravello, CRF Luciano Rolando, Politecnico di Torino	Hydrogen for Sustainable Mobility: H2ICE&H2FC Chairperson: Stefano Fontanesi, Università di Modena e Reggio Emilia	Aftertreatment technologies Chairperson: Zissis Samaras, Emisia SA
11:10-11.30	Eco-Driving Optimization for Battery Electric Vocational Trucks: A Spatial-Domain Approach with Normalized Energy Parameters Andrea Giacobbo, Daniele Beltrami, Paolo Iora, Stefano Uberti, Università di Brescia; Manfredi Villani, The Ohio State University	A 1D Numerical Investigation of Oil Drop Autoignition in Convective H2-Air for Knock Modeling Federico Perini, Wisconsin Engine Research Consultants; Niccolo Fiorini, Giovanni Vichi, Yanmar R&D Europe	Particulate Filters to Mitigate Global Warming and CO2 emissions Lauretta Rubino, Vert
11:30-11.50	Optimal Charging Planning with Energy Consumption Simulation for Battery Electric Long-Haul Trucks Michail Perdikopoulos, Aristotle University of Thessaloniki; Stylianos Doulgeris, Leonidas Ntziachristos, Georgios Livitsanos, Thomas Kazakis, Giorgos Mellios, EMISIA SA Paper # 2026-37-0019	Design and Optimization of a Passive Prechamber Ignition System for Ultra-Lean Hydrogen-Fueled Spark-Ignited Engines Andrea Piano, Marco Marzulli, Gianpaolo Quattrone, Federico Millo, Politecnico di Torino; Danilo Ceratto, Alessandro Perazzo, Francesco Villa, Westport Fuel Systems Italia; Paul-Benjamin Reinicke, Michael Rieß, IAV GmbH; Metin Korkmaz, Champion Ignition	Development of the Chemical Reaction Mechanism for Oxide Film Formation and Decomposition in Rh-Based Three-Way Catalysts Aiko Takano, Jin Kusaka, Waseda University; Steffen Tischer, Daniel Hodonj, Patrick Lott, Olaf Deutschmann, Karlsruhe Institute of Technology
11.50-12.10	Passenger Car Powertrain for Voltages above 800V Christof Schernus, Shady Nada, Christoph Neuhaus, Jens Ewald, FEV Europe GmbH; Daniel Swierc, Rajesh Kallur-Krishnamoorthy, RWTH Aachen University; Harilaos Vasiliadis, InnovationGreen Paper # 2026-37-0020	Sub Zero Cold Start of a Novel 6.6 L H2 PFI V8 Engine: Experimental Assessment of Coordinated Ignition and Injection Strategies Riccardo Aprosio, Alessandro Forina, Raffaele Russo, Giovanni Gallo, Marco Ravazzolo, Nicola Sacco, Tonio Spedicato, Gianmarco Stirpe, Antonino Zingariello, Barbara Maisola, DUMAREY Automotive Italia S.p.A.; Aldo Di Nieri, DUMAREY Softronix S.r.l.	Biofuel Effect on Regeneration Capability and Soot Reactivity in SCRoF Systems Simone Costa, FPT Industrial
12.10-12.30	Hybridized Diesel Powertrains - an important enabler for commercial applications on the long journey towards full electrification Thomas Koerfer, FEV Group GmbH Paper # 2026-37-0022	Experimental and Numerical Investigation of Ultra-Lean Hydrogen Combustion in a Spark-Ignition Engine Using a Dedicated Cold-Spark Ignition System Massimiliano Avana, Jacopo Zembi, Tamara Gammaidoni, Filippo Bittoni, Michele Battistoni, Carlo Grimaldi, Università degli Studi di Perugia; Federico Ricci, Stefano Papi, Champion Ignition – Tenneco	Impact of Thermal Ageing on Three-Way Catalyst Performance in Heavy-Duty Natural Gas Engines for Euro 7 Durability Compliance Dario Di Maio, Chiara Guido, Carlo Beatrice, Pierpaolo Napolitano, CNR - STEMS; Edoardo Merlone Borla, FPT Industrial SpA
12.30-12.50	Enabling Flexibility Services through Interoperable V2X Infrastructures: Advanced Modeling and Operational Validation in the FLEXV2X Project Giovanni Lutzenberger, Massimo Ceraolo, Gianluca Pasini, Università di Pisa; Davide Barater, Università di Modena e Reggio Emilia; Cesare Fera, Fera srl; Ian Leaver, Ricarica srl Paper # 2026-37-0024	Numerical simulation of spark-ignited flame kernels towards prospective application to hydrogen SI engines Enrico Dotteschini, Marco Pretto, Pietro Giannattasio, Università di Udine; Mahmoud Gadalla, Wärtsilä Finland Oy Paper #2026-37-0015	Comparative Toxicological Assessment of Exhaust Emissions from Modern Low-Emission Passenger Vehicles Georgios Tsakonas, Rodopi Stamatiou, Antigone Lazou, Zissis Samaras, Aristotle University of Thessaloniki; Karine Elihn, Stockholm University Paper # 2026-37-0005

Lunch @Exhibition Area

Tuesday - June 9, 2026 (afternoon)

Parallel Sessions

	AUDITORIUM	SALA 150	SALA VETRATA
	Alternative Fuels and E-Fuels Chairperson: Antonio Garcia, UPV/CMT	Hydrogen for Sustainable Mobility: H2ICE&H2FC Chairperson: Carlo Beatrice, CNR STEMS	New Powertrain Developments Chairperson: Marc Sens, IAV
14.00-14.20	Numerical Investigation of Advanced Combustion Concepts for Low-Emission Ammonia Operation in Large-Bore Engines Massimiliano Zanatta , Federico Millo, Andrea Piano, Politecnico di Torino ; Francesco C. Pesce, Francesco Accurso , Alberto Vassallo, Dumarey Automotive Italia S.p.A.	Scaling and validation of a PEMFC recirculation ejector from 5 kW to 80 kW Christian Antetomaso , Giovanni Cecere, Adrian Irimescu, Simona Merola, CNR Stems	A compact bidirectional pump architecture for water injection (WI) systems in advanced combustion engines Marco Gubitosa , Marco Arsuffi , Industrie Saleri Italo S.p.A.
14.20-14.40	A Study of the Ammonia Pre-Chamber Combustion System Combined with Fuel Reforming Tatsuya Kuboyama , Chiba University	Development of a 0D – 1D numerical model for the thermal management of a heavy – duty PEMFC Giovanni Cecere , Christian Antetomaso, Adrian Irimescu, Simona Merola, CNR Stems Paper # 2026-37-0006	Recent advances on research into Wankel rotary engines Giovanni Vorraro , James Turner , KAUST
14.40-15.00	Evaluation of Flamelet-Based Combustion Models for Hydrogen-Ammonia Spark-Ignition Engines Riccardo Sola , Mirko Baratta, Daniela Misul, Politecnico di Torino ; Christine Rousselle, Pierre Brequigny, Universite D'Orleans ; Olivier Colin, IFP Energies Nouvelles Paper # 2026-37-0027	An Along-the-Channel Pseudo-2D Approach for Spatially Resolved PEM Fuel Cell Dynamics Björn Ringeisen , Michael Günthner, Pascal Kargl, RPTU Kaiserslautern-Landau Paper # 2026-37-0010	An open-source framework to Automate Virtual Optimization of Internal Combustion Engine Calibration Maps through shape-based strategy Gianvito Romano , Filippo Aglietti, Tonio Spedicato, Ivan Flaminio Cozza, Andrea Capra, Dumarey Automotive Italia S.p.A. Paper # 2026-37-0001
15.00-15.20	Impact of Compression Ratio and Stroke on Hydrogen Requirement for Emission Optimized Operation of an Ammonia-Fuelled Spark-Ignition Engine Neeraj Kumar Yadav , Ajith Ambalakatte, Sikai Geng, Gagan Gopakumar Suja, Alexander Birch, Alasdair Cairns, University of Nottingham ; Anthony Harrington, Jonathan Hall, Mahle Powertrain Ltd. Paper # 2026-37-0030	Investigating the potential of two individually controlled injectors per rotor for a DI hydrogen Wankel engine Jonas Endres , Christian Beidl, Tim Herold, Philipp Lavall, Marvin Schmidt, Technische Universität Darmstadt ; Silas Hofmann, Jonas Kahl, HTM Hydro Technology Motors Paper # 2026-37-0008	A predictive methodology for 3D-CFD simulation of piston thermal field in sustainable high-performance engines Andrea Duni , Fabio Berni, Sebastiano Breda, Stefano Fontanesi, Filippo Gilioli, Università di Modena e Reggio Emilia Paper # 2026-37-0002
15.20-15.40	Nitrogen-based emissions from Ammonia Combustion in a Heavy-Duty Spark Ignition Engine Juan Trujillo Grisales, Stefany Saenz Prado, Luis F. Alvarez, Vyacheslav Akkerman, Cosmin E. Dumitrescu , West Virginia University Paper # 2026-37-0032	Investigation of influential parameters on the integrated hydrogen argon power cycle Iman Chitsaz , Sajid Ahammed, Alireza Kakoei PhD, Maciej Mikulski, University of Vaasa ; Mohammad Mahdi Salahi, Amin Andwari, University of Oulu ; Zeeshan Ahmad, Jari Hyvonen, Wartsila Paper # 2026-37-0012	Methane Emission Mitigation in Large-Bore Dual-Fuel Engines via Negative Valve Overlap Diesel Injection: Thermochemical Pathways and Reactivity Control Amir Soleimani , Mikael Nurmi, Jeyoung Kim, Maciej Mikulski, University of Vaasa ; Jacek Hunicz, Lublin University of Technology ; Jari Hyvonen, Wärtsilä Finland Oy #2026-37-0045

Coffee Break @Exhibition Area

Tuesday - June 9, 2026 (afternoon)

Parallel Sessions

	AUDITORIUM	SALA 150	SALA VETRATA
	Aero & Thermal Management Chairpersons: Federica Bettoja, CRF Luca Schinardi, DENSO Thermal Systems	Hydrogen for Sustainable Mobility: H2ICE&H2FC Chairperson: Luca Romani, Università degli Studi di Firenze	Alternative Fuels and E-Fuels Chairperson: Ezio Mancaruso, CNR STEMS
16.10-16.30	Benchmarking R-474A for Next-Generation BEV Thermal Systems: A Comparative Efficiency Analysis via Digital Twin Simulation Christian Macri , Álvaro De León, Felix Flohr, Daikin Chemical Europe GmbH	Investigation of the effects of combustion chamber cooling on combustion characteristics, in a single-cylinder, hydrogen direct injection, spark ignition engine Alessandro Brusa, Nicolo Cavina, Federico Omicini, Università di Bologna ; Sam Akehurst, Stefania Esposito , Reza Islam, Aidan King, University of Bath ; Henry Mudge, Karl Giles, IAAPS Ltd ; Peter Jones, Harsh Goyal, Jaguar Land Rover	Investigation of a Robust Fuel Detection Methodology for Renewable Diesel Fuels Miguel Calixto de Sousa, DENSO Automotive Deutschland GmbH
16.30-16.50	BEV Thermal-Management Architectures - Global Benchmarking: Integration Trends, Operating Modes, and Efficiency Levers Balzarino Verratti , Giuseppe D'Aurizio, Marco Rabino, Elena Pulieri, Daniele Ciola, Leonardo Tinacci, Claudio Di Piero, Dumarey Automotive Italia SpA	Effects of Engine Geometries on the Combustion Characteristics of a Heavy-Duty Hydrogen Spark-Ignition Engine Xinlei Liu, Rafael Menaca, James W.G. Turner, Hong G. Im, King Abdullah University of Science & Tech. ; Emre Cenker, Yasser A. Qahtani, Saudi Aramco ; Yuanjiang Pei, Mickael Silva, Aramco Americas Paper # 2026-37-0046	Development and Experimental Validation of a 1D Model for Performance and Emissions Analysis of Oxygenated Fuel Blends in a CI Engine M Wajahat Rasool Arain , Emmanuele Frasci, Ivan Arsie, Università degli Studi di Napoli Parthenope ; Antonio Foglia, Università di Salerno ; Oldrich Vitek, Czech Technical University ; Cesare Pianese, Università di Salerno Paper # 2026-37-0028
16.50-17.10	Experimental assessment of a heat pump system for BEV using R290 refrigerant Lorenzo Pelillo , Mauro Casella, Luca Dello Preite, Fabrizio Mattiello, Christopher Strano, Centro Ricerche Fiat Scpa	Potential of Direct Water Injection for NO _x mitigation in Hydrogen Engines: A coupled Experimental and CFD study Sebastiano Breda , Stefano Fontanesi, Fabio Berni, Università di Modena e Reggio Emilia ; Gabriele Di Blasio, Roberto Ianniello, CNR Stems ; Luca Romani, Giovanni Ferrara, Università degli Studi di Firenze	Experimental investigation on cold start and warm-up phases for an ethanol fueled SI engine Luigi Falbo , Biagio Falbo, Diego Perrone, Teresa Castiglione, DIMEG Università della Calabria Paper # 2026-37-0031
17.10-17.30	Analysis of a sorption energy storage system for cabin air heating and dehumidification in electric vehicles Rebecca Verlingieri , Luca Marocco, Gabriele Scudeler, Politecnico di Milano ; Luigi Calabrese, Università di Messina ; Angelo Freni, CNR ICCOM ; Stefano De Antonellis, Politecnico di Milano, CNR ICCOM Paper # 2026-37-0034	Combined EGR-Air Dilution Effects on Performance, Combustion and Emissions of a Single-Cylinder Spark-Ignition Direct-Injection Hydrogen Engine Sam Akehurst, Stefania Esposito, Aidan King , Reza Islam, Simon Pickering, Hao Yuan, University of Bath ; Henry Mudge, Karl Giles, IAAPS Ltd. ; Harsh Goyal, Peter Jones, Jaguar Land Rover Paper # 2026-37-0009	Performance and Combustion Characteristics of Coryton SUSTAIN Classic Super 80 Carbon-Neutral Fuel Versus E95 in a 1980s Fiat 500 Engine Marco Tarchiani , Sandro Raspanti, Giovanni Ferrara, Luca Romani, Università degli Studi di Firenze ; Federico Fossati, Liceo Scientifico Antonio Gramsci ; Alberto Baroni, Baker Hughes Paper # 2026-37-0033
Plenary Keynote @Auditorium Chairperson: <i>Marc Sens, IAV</i>			
17.30	In Defense of Internal Combustion...10 Years Later - Kelly Senecal, Convergent Science		
18.00	Final Remarks		

Social Program

Networking cocktail and exhibition tour at the Pista 500 and Pinacoteca Agnelli
(walking distance from the Conference Venue, Meeting point @MAUTO Cafeteria)

Wednesday - June 10, 2026 (morning)

08.00

Registration

Plenary Keynote @Auditorium

Chairperson: André Casal Kulzer, FKFS / IFS University of Stuttgart

8.30-10.30

- SAE Alignment with European Values and Sustainability Goals, **Carla Bailo SAE International**
- Recalibrating Road Transport Pathways: Carbon-Neutral Technology Scenarios - the European Commission's Automotive Package - **Zissis Samaras, Aristotle University and Emisia SA**
- Making Decarbonization Traceable, Measurable and Certified - **Luca Gastaldo, Bosch**
- Hydrotreated Vegetable Oil (HVO): a drop-in biofuel to accelerate the transition to a sustainable mobility- **Daniele Testa, Eni**
- Sustainable ICE for Low-Carbon Transport - **Andrea Gerini, Iveco Group**
- Q&A Session

Coffee Break @Exhibition Area

Parallel Sessions

AUDITORIUM

Hydrogen for Sustainable Mobility: H2ICE&H2FC

Chairperson:
André Kulzer, FKFS/IFS University of Stuttgart

SALA 150

Hybridization & Electrification

Chairpersons: Vittorio Ravello, CRF
Luciano Rolando, Politecnico di Torino

SALA VETRATA

Legislation Framework & Future Scenarios

Chairperson:
Benedetta Peiretti Paradisi, Politecnico di Torino

11.00-11.20

Enhanced Predictive Combustion Modeling of a Hydrogen-Fueled PFI Engine via Modified Premixed Turbulent Flame Speed Correlation
Gerardo Stanzione, Federico Millo, Andrea Piano, **Politecnico di Torino**; Giovanni Vichi, Niccolo Fiorini, **Yanmar R&D Europe**; Luca Romani, Giovanni Ferrara, **Università degli Studi di Firenze**

Energy Management Strategy for Fuel Cell Hybrid Electric Vehicles: the mutual impact of powertrain configuration and control design
Lorenzo Bartolucci, **Edoardo Cennamo**, Stefano Cordiner, Marco Donnini, Vincenzo Mulone, **Università degli studi di Roma Tor Vergata**

Characterisation and Modelling of Port Vehicle Fleet Carbon Emissions
Daisy Thomas, **3DATX Corporation**

11.20-11.40

A new correlation to model hydrogen thermo-diffusive instabilities and its effect on flame development in Internal Combustion Engines
Manuel Madia, Sebastiano Breda, Fabio Berni, Stefano Fontanesi, **Università di Modena e Reggio Emilia**

Potential of ORC-Based Waste Heat Recovery in Conventional and Hybrid Heavy-Duty Powertrains
Teresa Donateo, **Università del Salento**; Pietropaolo Morrone, **Università della Calabria**
Paper # 2026-37-0018

Impact of Emissions Trading Systems on cost competitiveness and sustainability of alternative energy vectors for Heavy-Duty Vehicles
Daniele Brenno Fausti, **Politecnico di Milano**

11.40-12.00

Integrated 1D/3D-CFD Modelling for Optimization of a Heavy-Duty Hydrogen Direct-Injection Engine
Andrea Bianco, Paolo Bigliani, Emanuele Servetto, Fabrizio Gullino, **GammaTech Engineering S.r.l.**; Hakki Kim, Yongwook Yu, Hyuckmo Kwon, Youngchul Yang, Joon Kyu Lee, **Hyundai Motor Group**

Development and validation of a one-dimensional model for an opposed-piston free-piston engine generator with parametric analysis
Jiayu Wang, Huihua Feng, Boru Jia, Peirong Ren, **Beijing Institute of Technology**; Nicola Morandi, Tommaso Lucchini, **Politecnico di Milano**
Paper # 2026-37-0021

Self-Assessment Methodology for Competitiveness and Technology Leadership for Projects in the Road Transport 2ZERO Partnership
Ian Faye, Robert Bosch GmbH

12.00-12.20

Predictive Modelling of NOx and Unburned Hydrogen Emissions in a Direct-Injection Hydrogen SI Engine
Enrica Malfi, Massimiliano De Felice, **Università degli Studi di Napoli Federico II**; Stefania Esposito, Aleksandar Ribniskii, Aidan King, Sam Akehurst, **University of Bath**; Peter Jones, Harsh Goyal, **Jaguar Land Rover**
Paper # 2026-37-0007

Thermal and Emission Characterization of Cylindrical Lithium-Ion Batteries under Thermal Abuse Using a Climate Chamber
Diego Alejandro Penagos Vásquez, Javier Marco-Gimeno, Javier Monsalve-Serrano, **Antonio Garcia**, **Universitat Politècnica de Valencia**; Jose Perez Balastegui, **Fortescue Zero**
Paper # 2026 -37-0023

Alcohol-Based Energy Carriers in Transportation: Status, Standards, and Outlook
Patrick Fitz, Felix Fellner, Raphael Rößlhuemer, Martin Härtl, Malte Jaensch, **Technical University Of Munich**
Paper # 2026-37-0042

12.20-12.40

Comparison of Detailed Chemistry and Flamelet-Based Models for Hydrogen Combustion in a Heavy-Duty PFI Engine
Alex Scopelliti, Daniela Anna Misul, Mirko Baratta, **Politecnico di Torino**; Alessandro Gallo, Nicola Rapetto, Luca Vargiu, **FPT**
Paper # 2026-37-0014

Low-Voltage Electric Vehicle with a Reconfigurable Powertrain Architecture for Urban and Extra-Urban Mobility
Eugenio Tramacere, Stefano Favelli, **Andrea Tonoli**, **Politecnico di Torino**; Renato Galluzzi, **Tecnologico de Monterrey**
Paper # 2026 -37-0025

Forecasting Electric Vehicle Fleet Growth and Energy Requirements in the UK
Bradley Burke, Sunny Kateregga, Jose Ricardo Sodre, **Aston University**
Paper # 2026-37-0043

12.40-13.00

A Holistic CFD Methodology for Full- and Multi-Cycle Simulation of Hydrogen Direct-Injection Internal Combustion Engines
Marcolucio Capecci, Tommaso Lucchini, Lorenzo Sforza, **Politecnico di Milano**; Vincenzo Pezza, Sergio Tosi, **Dumarey Automotive Italia**
Paper # 2026-37-0016

Development of a Load Responsive Mechanical Shifting Mechanism and Its Benefits for Battery Electric Vehicles
Christof Napetschnig, Juergen Tromayer, David Stückler, **Graz University of Technology**
Paper # 2026-37-0026

Automated Design Sustainability Evaluation Framework: a CAD-Integrated Tool for Real-Time Costing and LCA in Automotive Engineering
Maurizio Guadagno, Leonardo Cecconi, Lorenzo Berzi, Massimo Delogu, **Università degli Studi di Firenze**
Paper # 2026-37-0044

Lunch @Exhibition Area

Wednesday - June 10, 2026 (afternoon)

Parallel Sessions

	AUDITORIUM	SALA 150	SALA VETRATA
	Legislation Framework & Future Scenarios Chairperson: Ameya Joshi, Mobility Notes	New Powertrain Developments Chairperson: Angelo Onorati, Politecnico di Milano	AI & Machine Learning for Transport Decarbonization Chairperson: Daniela Misul, Politecnico di Torino
14.00-14.20	Critical Mass: The One Thing You Need to Know About Green Cars Felix Leach, University of Oxford	Key Technologies for an Innovative Combustion System for Compression Ignition Engines to Achieve Ultra-low Emissions Vincenzo Ottria , Giacomo Belgiorio, Francesco C. Pesce, Alberto Vassallo, Gianluca Francesconi, Sergio Tosi, Ivan cozza, Dumarey Automotive Italia S.p.A. ; Gabriele Di Blasio, Michele Picipelli, Roberto Ianniello, CNR-STEMS	From 1D CFD To Neural Network-Based Engine Model For Real-Time Simulation Filippo Aglietti , Gianvito Romano, Alessandro Cirillo, Tonio Spedicato, Andrea Capra, Dumarey Automotive Italia S.p.A.
14.20-14.40	Understanding car manufacturers' strategies to meet EU CO2 emissions targets Jamil Nur, Dimitrios Komnos , Alessandro Tansini, Georgios Fontaras, European Commission - JRC	Investigation into Cooling Loss Reduction Associated with Changes in In-Cylinder Flame Distribution by Offset Orifice Nozzle Tomoyuki Mukayama , Shigeru Nomoto, Noboru Uchida, New A.C.E. Institute Co., Ltd. ; Yoshiteru Enomoto, Tokyo City University ; Naotaka Mikami, INDEX Eng. Co., Ltd. Paper # 2026-37-0003	Rapid Fuel Distribution Prediction in RCCI Marine Engines Using CFD-Informed, Active Learning Framework Jamshid Moradi , Mahdi Salahi, Amin Andwari, Juho Konno, University of Oulu ; Shadab Heidarabadi, Maciej Mikulski, University of Vaasa ; Christer Wik, Wartsila Finland Oy Paper # 2026-37-0017
14.40-15.00	Decoding EU Heavy-Duty Fleet Dynamics: Regulation-Driven Optimization and Pathways to Decarbonization Nicolas Deschle , Nikiforos Zacharof, Evangelos Bitsanis, Georgios Fontaras, Guillaume Alix, JRC ; Markos A. Ktistakis, Aristotle University of Thessaloniki	Development of a Diesel Combustion System for Next-Generation Heavy-Duty Engines Using a Synergistic Analysis-and-Testing Approach Giacomo Belgiorio , Maria Pia Centini, Vincenzo Pezza, Ivan F. Cozza, Francesco C. Pesce, Alberto Vassallo, Dumarey Automotive Italia S.p.A. ; Giovanni Colombo, Alessandro Gallo, Mohsen Mirzaeian, Jonathan Borg, FPT Industrial - IVECO Group Paper # 2026-37-0004	Investigation of AI-Based Digital Twinning of Powertrain Components for Design and Control Purposes Fabio Viotto, Piervincenzo CATERA , Dana Performance Transmissions Srl ; Aldo Sornioti, Alessandro Vigliani, Matteo Depalo, Politecnico di Torino

Parallel Sessions

	AUDITORIUM	SALA 150	SALA VETRATA
	From Well to Wheels to Life Cycle Assessment Chairperson: Ameya Joshi, Mobility Notes	Alternative Fuels and E-Fuels Chairperson: Alberto Vassallo, Dumarey Automotive Italia S.p.A.	Lightweighting Chairperson: Alessandro Scattina, Politecnico di Torino
15.10-15.30	Bridging Regulatory and Real-World CO ₂ Emissions in Plug-in Hybrids: The Role of Alternative Fuels Benedetta Peiretti Paradisi , Mario Milite, Luciano Rolando, Matteo Prussi, Federico Millo, David Chiaramonti, Linda Costantini, Politecnico di Torino	A new piston bowl to increase the efficiency of natural gas HD engines Stefano Golini , Nicola Rapetto, Sergio Giordana, FPT Industrial SpA ; Luca Vargiu, FPT Motorenforschung AG ; Pierpaolo Napolitano, Davide Di Domenico, CNR STEMS	Design-Driven Sustainability of Automotive Components: A Comparative LCA from Conventional to Metal and Composite Additive Manufacturing Enrico Dalpadulo, Mario Russo , Francesco Leali, Università di Modena e Reggio Emilia ; Raphaëlle Apté MD, Dassault Systèmes Paper # 2026-37-0037
15.30-15.50	Environmental impacts and mitigation measures for brake emissions from road transport in Europe assessed with fleet LCA Zissis Samaras, Sokratis Mamarikas , Traianos Karageorgiou, Nikoleta Batsalia, EMISIA SA	Model-in-the-Loop optimization of cylinder balancing control strategies for stationary gas engines based on phenomenological predictive combustion modelling Guglielmo Rossi , Andrea Piano, Federico Millo, Politecnico di Torino ; Irene Gallici, Wärtsilä Italia S.p.A. ; Aleksanteri Heikkinen, Wärtsilä Finland Oy ; Giuseppe Lo Iacono, Francesco Luciano Lassandro, Wärtsilä Italia S.p.A.	Improvement of rCF behaviour through the introduction of NF Dawid Hnatyk , Andreas Chrysanthou, Tom De Vuyst, Sikiru Ismail, University of Hertfordshire Paper # 2026-37-0039
15.50-16.10	How to quantify the in-use energy consumption of Plug-in Hybrid Electric Vehicles for Life Cycle Assessment? Challenges and opportunities from On-Board Fuel and energy Consumption Monitoring Alessandro Tansini , Giuseppe Di Pierro, Jaime Suarez, Georgios Fontaras, European Commission - JRC ; Jelica Pavlovic, European Dynamics S.A.	On natural gas combustion split into diesel like architecture of a compression ignition engine retrofitted for spark ignition operation Adrian F. Clenci , Victor Iorga-Siman, Politehnica Bucuresti ; Robert Popa, Julien Berquez, Catalin Magheru , Horse Powertrain ; Plamen Punov, Technical University of Sofia ; Rodica Niculescu, University of Pitesti Paper # 2026-37-0029	Automated Structural Optimization of a Formula SAE Chassis using a Customizable MATLAB-based FEM Tool Andrea Candela , Marco Gadola, Daniel Chindamo, Paolo Magri, Giulia Sandrini, Università di Brescia

Coffee Break @Exhibition Area

Parallel Sessions

	AUDITORIUM	SALA 150	SALA VETRATA
	Hydrogen for Sustainable Mobility: H2ICE&H2FC Chairperson: Simona Merola, CNR STEMS	From Well to Wheels to Life Cycle Assessment Chairperson: Carloandrea Malvicino, Stellantis	Aero & Thermal Management Chairpersons: Federica Bettoja, CRF e Mauro Casella, CRF
16.30-16.50	Conversion of a 15kW diesel engine to operate in dual fuel mode with hydrogen and diesel Ezio Mancaruso, STEMS - CNR ; Salvatore Rossetti, UNINA & STEMS - CNR	Green NCAP 2025: Overview and Practical Application of an LCA-Based Vehicle Testing Protocol Carlo Ducrot, CSI SpA	A Regulatory-Compliant holistic approach for BEV Range Extension Cristiano Massano , Vito Carlone PhD, DENSO Thermal Systems SpA ; Julian Niedermayer, Kimia Mesghali, DENSO Automotive Deutschland GmbH
16.50-17.10	3D-CFD low-cost modelling of hydrogen Injection employing Lagrangian Particle Tracking approach Andrea Bianco, GammaTech Engineering ; Marco Orlando , Andrea Piano, Federico Millo, Politecnico di Torino , Enrico Botter, Olivier Benoit, Toyota Racing GmbH	Machine Learning (ML) applied to Life Cycle Assessment (LCA) for uncertainties evaluation in the transport sector Benedetta Peiretti Paradisi , Matteo Prussi, Lorenzo Langone, Politecnico di Torino	Advancements in under-hood virtual thermal verification Sofia Ebermark, Mirko Bovo, Aurobay
17.10-17.30	CFD Modelling of an Asymmetric Hydrogen Injector Cap for Direct Injection Applications: Design Impact on Jets Structure and Momentum Flux Nicolo Pavan , Sebastiano Breda, Andrea Duni, Stefano Fontanesi, Università di Modena e Reggio Emilia ; Manuel Martino, STSE SRL ; Lucio Postrioti, Università degli Studi di Perugia Paper # 2026-37-0011	Life-Cycle Assessment of a Retrofitted Methane-Fueled Engine for Marine Power Generation Set Gianfranco Malagrino , Stefano Zucca, Michele Pensato, Valentina Goriotti, Dumarey Automotive Italia S.p.A ; Giovanni Meccariello, Livia Della Ragione, CNR Stems ; Emmanuele Lo Re, Angelo Giardino, Isotta Fraschini Motori S.p.A	A Design-Oriented Experimental Method for Evaporative Cooling under Automotive Boundary Conditions Philip Döbler , Michael Henzler, Michael Auerbach, UAS Esslingen
17.30-17.50	Dynamic Transient Control of Hydrogen Direct-Injection SI Engines: Effects of Ramp Timing on Engine Performance and Abnormal Combustion Mohamed Mohamed, Zayne Zaman , Hua Zhao, Xinyan Wang, Brunel University of London	A Parametric Cradle-to-Grave Life Cycle Assessment Tool for Comparative Evaluation of Passenger Car CO ₂ Emissions Chiara Gastaldi , Luca Cibrario, Politecnico di Torino Paper # 2026-37-0040	Engine thermal management strategies for emissions reduction during real driving tests Davide Di Battista, Marco Di Bartolomeo , Roberto Cipollone, Università degli Studi dell'Aquila Paper # 2026-37-0036
Plenary Keynote @Auditorium Chairpersons: Federico Millo, Politecnico di Torino e Duccio Malvicino, Stellantis			
17.50	EU automotive industry at crossroads to balance decarbonization and competitiveness – Peter Dolejsi ACEA Director for Mobility and Sustainable Transport		
18.15	Closing Remarks @Auditorium		

Thursday - June 11, 2026 – Morning

Technical visits

Dana Performance Transmissions (transfer included)

Stellantis Battery Technology Center (transfer included)

Politecnico Labs & Dumarey