

## CO2 Reduction for Transportation Systems Conference Preliminary Program

Tuesday - June 21, 2022 Morning			
Opening Welcome Address			
09.00-9.15	<ul style="list-style-type: none"> <li>• <b>SAE International Torino Section</b></li> <li>• <b>ANFIA</b></li> </ul>		
09.15-09.45	<ul style="list-style-type: none"> <li>• Decarbonizing the transportation sector : A holistic review of the technology pathways, <b>Joshi , A. - Corning Inc.</b></li> </ul>		
09.45-10.15	<ul style="list-style-type: none"> <li>• Euro 7 Emission Standards: Developing the Technical Proposal Towards Ultra Low Emissions Vehicles, <b>Samaras Z.. - Aristotle University of Thessaloniki</b></li> </ul>		
10.15-10.45	<ul style="list-style-type: none"> <li>• A global comparison of the life-cycle greenhouse gas emissions of combustion engine and electric passenger cars, <b>Bieker G. - ICCT</b></li> </ul>		
10.45-11.15	<ul style="list-style-type: none"> <li>• The Role of Combustion in our Race Toward Zero, <b>Senecal, K. - Convergent Science</b></li> </ul>		
Break and Sponsored Contents			
Parallel Sessions			
	<b>Infrastructure development for transport decarbonization</b>	<b>Alternative Fuels, E-Fuels &amp; Hydrogen</b>	<b>Lightweighting</b>
11.45-12.05	<ul style="list-style-type: none"> <li>• Hydrogen based mobility, transport and as a energy vector <b>Warnecke W. – Shell</b></li> </ul>	<ul style="list-style-type: none"> <li>• Mixture Formation Analysis for Diesel, n-Dodecane, RME, and HVO in Large-Scale Injector Nozzles <b>Fajri H. - Friedrich-Alexander-Universität FAU (22CO-0053)*</b></li> </ul>	<ul style="list-style-type: none"> <li>• Integrated optimal design and Additive Manufacturing for lightweight vehicles (22CO-0033)* <b>TBD</b></li> </ul>
12.05-12.25	<ul style="list-style-type: none"> <li>• Emobility solutions charging infrastructure <b>Stillober T. – EnBW</b></li> </ul>	<ul style="list-style-type: none"> <li>• Analysis of the Applicability of Water Injection in Combination with an eFuel for Knock Mitigation and Improved Engine Efficiency (22CO-0017)* <b>Rossi E. - IFS - University of Stuttgart</b></li> </ul>	<ul style="list-style-type: none"> <li>• Lightweight components manufactured with in-production composite scraps: mechanical properties and application perspectives (22CO-0058)* <b>Fiumarella D. - Politecnico di Torino</b></li> </ul>
12.25-12.45	<ul style="list-style-type: none"> <li>• TBD <b>Lamberti F. - Nhoa Atlante</b></li> </ul>	<ul style="list-style-type: none"> <li>• Virtual development of a single-cylinder engine for high efficiency by the adoption of efuels, methanol, pre-chamber and millerization (22CO-0034)* <b>Vacca A. - FKFS</b></li> </ul>	<ul style="list-style-type: none"> <li>• Lightweight Design and Additive Manufacturing of a Fatigue-Critical Automotive Component (22CO-0061)* <b>Nicoletto G. - University of Parma</b></li> </ul>
Lunch and Sponsored Contents			

## Tuesday - June 21, 2022

## Afternoon

## Parallel Sessions

	Hybridization & Electrification	Aero & Thermal Management	Lightweighting
14.00-14.20	<ul style="list-style-type: none"> <li>Future Hybrid System Solutions for HD-Diesel Engines Towards Low CO2 and Emission Regulations <b>Weber J. - DENSO AUTOMOTIVE Deutschland GmbH</b></li> </ul>	<ul style="list-style-type: none"> <li>Development of a High-Voltage Battery Pack Thermal Model at Vehicle Level for Plug-in Hybrid Applications (22CO-0009)* <b>Piovano A.A.- Stellantis</b></li> </ul>	<ul style="list-style-type: none"> <li>Ducati lightweight desing - new Monster rear frame <b>Di Piazza S. - Ducati</b></li> </ul>
14.20-14.40	<ul style="list-style-type: none"> <li>Calibrating a Real-time Energy Management for a Heavy-Duty Fuel Cell Electrified Truck towards Improved Hydrogen Economy (22CO-0030)* <b>Anselma P.G. - Politecnico di Torino</b></li> </ul>	<ul style="list-style-type: none"> <li>The end of range anxiety thanks to fast charging and immersion cooling in BEVs <b>Daccord R. - EXOES</b></li> </ul>	<ul style="list-style-type: none"> <li>Polymers Application for Electric Vehicles <b>Ciaccio G. - CRF SCpA</b></li> </ul>
14.40-15.00	<ul style="list-style-type: none"> <li>e.Caravan – a way to a greener tourism (22CO-0012)* <b>Freimann R. - Erwin Hymer Group SE</b></li> </ul>	<ul style="list-style-type: none"> <li>ClimateSense Microclimate System: Improving Energy Efficiency and Comfort <b>TBD</b></li> </ul>	<ul style="list-style-type: none"> <li>SAE_Lightweight metals material in automotive industry and new methods for the metals testing <b>Tedesco M.M. - Automotive Product Organization</b></li> </ul>
15.00-15.20	<ul style="list-style-type: none"> <li>Experimental Assessment of Powertrain Components and Energy Flow Analysis of a Fuel Cell Electric Vehicle (FCEV) (22CO-0011)* <b>Di Piero G., Joint Research Centre</b></li> </ul>	<ul style="list-style-type: none"> <li>Advanced thermal controls and connectivity for increasing efficiency and range of e-vehicle with no comfort compromises <b>Rostagno M.M., Centro Ricerche Fiat SCpA</b></li> </ul>	<ul style="list-style-type: none"> <li>Composite materials to enhance vehicles lightweighting: toward a standard method to evaluate the Specific Energy Absorption <b>Colonna E. -</b></li> </ul>

## Break and Sponsored Contents

## Parallel Sessions

	Hybridization & Electrification	New Powertrain Development	From Well to Wheels to Life Cycle
15.50-16.10	<ul style="list-style-type: none"> <li>A Operating Strategy Approach for Serial/Parallel Hybrid Electric Vehicles (22CO-0004)* <b>Stoll T. - Universitat Stuttgart</b></li> </ul>	<ul style="list-style-type: none"> <li>PHEV towards zero EmissionS &amp; ultimate ICE efficiency: the PHOENICE project <b>Tahtouh T.- IFP Energies nouvelles</b></li> </ul>	<ul style="list-style-type: none"> <li>Tailored framework to analyze and interpret LCA's results in automotive lightweighting (22CO-0035)* <b>Del Pero F. - Univ. of Florence - Dept. Industrial Eng</b></li> </ul>
16.10-16.30	<ul style="list-style-type: none"> <li>Assessment of Components Sizing and Energy Management Algorithms Performance for a Parallel PHEV (22CO-0013)* <b>Aletras N.- Aristotle University of Thessaloniki</b></li> </ul>	<ul style="list-style-type: none"> <li>Aftertreatment layouts evaluation in the context of Euro 7 scenarios proposed by CLOVE (22CO-0015)* <b>TBD</b></li> </ul>	<ul style="list-style-type: none"> <li>Reinforced polyamides with low environmental impact: post-consumer materials. <b>Galeazzi R. - RadiciGroup High Performance Polymers</b></li> </ul>
16.30-16.50	<ul style="list-style-type: none"> <li>Development of a Neural Network based Energy Management System (EMS) for a plug-in Hybrid Electric Vehicle <b>Millo F. - Politecnico di Torino</b></li> </ul>	<ul style="list-style-type: none"> <li>Burner Development for Light-Off Speed-Up of Aftertreatment Systems in Gasoline SI engines(22CO-0023)* <b>Battistoni M. - Universita degli Studi di Perugia</b></li> </ul>	<ul style="list-style-type: none"> <li>A methodology for calculating scope 3 downstream CO2 emissions from the use of Valeo's products worldwide <b>Mellios G. - EMISIA SA</b></li> </ul>

## Plenary Keynotes

16.50-17.15	<ul style="list-style-type: none"> <li>Title TBD, <b>Garcia A. - CMT</b></li> </ul>
17.15-17.45	<ul style="list-style-type: none"> <li>Coupling energy and powertrain systems for a sustainable mobility, <b>Kulzer A.C. - IFS - University of Stuttgart</b></li> </ul>
17.40-18.05	<ul style="list-style-type: none"> <li>The impact of vehicular emissions and GHG legislation on the development of ICE/hybrids/electrified powertrain technologies and testing methodologies for road vehicles, <b>Bielaczyc P. - Bosmal Automotive R &amp; D Institute</b></li> </ul>

## Closing Remarks

## Wednesday - June 22, 2022 Morning

### Plenary Keynotes

8.30-09.00	<ul style="list-style-type: none"> <li>Ready for Climate Neutrality – Demand for ICE's with Zero Carbon Footprint, <b>Alt N. -FEV</b></li> </ul>
09.00-9.30	<ul style="list-style-type: none"> <li>On the road to zero emissions mobility: the crucial role of technology neutrality, <b>Brancale D. - AVL Italia SRL</b></li> </ul>
9.30-10.00	<ul style="list-style-type: none"> <li>Series Hybrids – a sustainable Solution for the Transport Sector, <b>Sens M. - IAV</b></li> </ul>
10.00-10.30	<ul style="list-style-type: none"> <li>Title TBD, <b>Mazza C. – Robert Bosch GmbH Branch Italy</b></li> </ul>

### Break and Sponsored Contents

### Parallel Sessions

	Hybridization & Electrification	New Powertrain Development	Legislation Framework & Future Scenarios
11.00-11.20	<ul style="list-style-type: none"> <li>MAHLE Modular Hybrid Powertrain for Large Passenger Cars and Light Commercial Vehicles (22CO-0010)* <b>Harrington A. - Mahle Powertrain, Ltd.</b></li> </ul>	<ul style="list-style-type: none"> <li>3D-CFD methodologies for a fast and reliable design of next generation SI engines (22CO-0051)* <b>Sforza L. – Politecnico di Milano</b></li> </ul>	<ul style="list-style-type: none"> <li>Eco-innovation CO2-reducing Technologies: Status and Future Challenges (22CO-0048)* <b>Gil-Sayas S. - Joint Research Centre</b></li> </ul>
<b>From Well to Wheels to Life Cycle Assessment</b>			
11.20-11.40	<ul style="list-style-type: none"> <li>From 48 V to High Voltage Dedicated Hybrid Powertrains: Numerical Assessment of Electrified Gasoline Architectures for a Low Emission C-SUV <b>Zanelli A. - POWERTECH Engineering S.r.l.</b></li> </ul>	<ul style="list-style-type: none"> <li>Experimental and 1D model analysis on the time to boost of a two stage hybrid boosting system for spark ignition engines <b>Usai V. - University of Genoa</b></li> </ul>	<ul style="list-style-type: none"> <li>Comparing options for using electricity in HD sector: the impact of country grid mix <b>Prussi M. - Politecnico di Torino</b></li> </ul>
11.40-12.00	<ul style="list-style-type: none"> <li>1D Modeling of a Plug-In HEV During RDE Cycles: Prediction of Tailpipe Emissions and Evaluation of Different Engine Control Strategies <b>Marinoni A. - Politecnico di Milano</b></li> </ul>	<ul style="list-style-type: none"> <li>Enhancing the Fuel Economy of a Turbocharged Direct Injection Spark Ignition Engine through the Synergic Combination of Port Water Injection, High Compression Ratio, and Miller Strategy <b>Gullino F. - Politecnico di Torino</b></li> </ul>	<ul style="list-style-type: none"> <li>Integrating Life Cycle Cost Analysis and Life Cycle Assessment for environmental product optimization <b>Cassinera D.</b></li> </ul>
12.00-12.20	<ul style="list-style-type: none"> <li>Battery Electric Vehicles Energy Consumption Breakdown From On-Road Trips (22CO-0028)* <b>Tansini A. - Joint Research Centre</b></li> </ul>	<ul style="list-style-type: none"> <li>Direct Water Injection Strategies for Performance Improvement of a Turbocharged Spark-Ignition Engine (22CO-0045)* <b>Lanni D. – Università di Cassino</b></li> </ul>	<ul style="list-style-type: none"> <li>Development of a Total Cost of Ownership Model to Compare BEVs, FCEVs and Diesel Powertrains on BUS Applications (22CO-0008)* <b>TBD</b></li> </ul>
12.20-12.40	<ul style="list-style-type: none"> <li>Measurements and Modeling of the Temperature of a Li-polymer Battery Provided with Different Coatings for Heat Dissipation (22CO-0059) <b>Sequino L. - STEMS - CNR</b></li> </ul>	<ul style="list-style-type: none"> <li>On the direct injection of H2O under supercritical and superheated conditions into ICES: the role of the injector geometry (22CO-0020)* <b>Cantiani A. – Università degli studi della Basilicata</b></li> </ul>	<ul style="list-style-type: none"> <li>The key role of the Product Environmental Footprint (PEF) in the New Batteries Regulation <b>Aimo Boot M. – Iveco Group Company</b></li> </ul>

### Lunch and Sponsored Contents

Wednesday - June 22, 2022

Afternoon

Parallel Sessions

	Alternative Fuels, E-Fuels & Hydrogen	New Powertrain Development	Aero & Thermal Management
14.00-14.20	<ul style="list-style-type: none"> <li>Title TBD <b>TBD. - Robert Bosch GmbH Branch Italy</b></li> </ul>	<ul style="list-style-type: none"> <li>Applying CFD Analysis to Study Influence of Intake Oxygen Temperature on Oxy-Fuel Combustion (22CO-0022)* <b>Mobasheri R. - Junia</b></li> </ul>	<ul style="list-style-type: none"> <li>Model based design, prototyping and testing of a very small size electrically driven centrifugal pump (22CO-0019)* <b>Mariani L. - Università degli Studi dell'Aquila</b></li> </ul>
14.20-14.40	<ul style="list-style-type: none"> <li>High Performance HPDI Engine Applications for CO2 Mitigation <b>Munshi S. - Westport Fuel Systems Inc.</b></li> </ul>	<ul style="list-style-type: none"> <li>Efficient Post-Processing Method for Identification of Local Hotspots in 3D CFD Simulations (22CO-0007)* <b>Fajt N. - Universität Stuttgart</b></li> </ul>	<ul style="list-style-type: none"> <li>Introducing Passive Pulsating Heat Pipe (PHP) Cooling Technology into the Cooling of Electronics and Batteries of EVs <b>Thome J.R. - JJ Cooling Innovation Srl</b></li> </ul>
14.40-15.00	<ul style="list-style-type: none"> <li>Sensing Solutions to allow the Fuel Cell System to hit the target in terms of efficiency, durability, safety and price level <b>Zorzetto M. - Eltek Spa</b></li> </ul>	<ul style="list-style-type: none"> <li>Greenhouse Gas Reduction from Envirokool Piston in Lean Burn Natural Gas and Diesel Dual Fuel Heavy Duty Engines (22CO-0021)* <b>Bitsis D.C. - Southwest Research Institute</b></li> </ul>	<ul style="list-style-type: none"> <li>Glazing for CO2 Reduction (22CO-0029)* <b>TBD</b></li> </ul>
15.00-15.20	<ul style="list-style-type: none"> <li>Experimental and CFD studies on a small-bore port fuel injected SI engine operated on neat methanol and comparison with gasoline (22CO-0065)* <b>R. Prajwal. - IIT Madras</b></li> </ul>	<ul style="list-style-type: none"> <li>Design of an additive manufactured Natural Gas Engine with thermally conditioned Active Prechamber (22CO-0006)* <b>Bucherer S. - Fraunhofer ICT</b></li> </ul>	<p style="text-align: center;"><b>Aero &amp; Rolling Resistance</b></p> <ul style="list-style-type: none"> <li>Fast Adjoint Optimization Methods for Automotive External Aerodynamics <b>Geremia P. - ENGYS Srl</b></li> </ul>
15.20-15.40	<ul style="list-style-type: none"> <li>NOx emissions and engine efficiency study under lean combustion and water injection in a H2 fueled heavy duty Diesel engine (22CO-0027)* <b>Oung R. - Universite D'Orleans</b></li> </ul>	<ul style="list-style-type: none"> <li>Experimental Assessment of Advanced Diesel Piston Bowls for Achieving Future Ultra-Low Emission Standards <b>Belgiorno G. - Punch Torino Spa</b></li> </ul>	<ul style="list-style-type: none"> <li>Numerical and Experimental Characterization of Morphable Composite Plate for Automotive Applications (22CO-0026)* <b>Castiglione T. - University of Calabria</b></li> </ul>
Plenary Keynotes			
16.10-16.30	<ul style="list-style-type: none"> <li>Vehicle to Home: next gen of eMobility services, <b>Anzioso F. - Free2Move</b></li> </ul>		
16.30-16.50	<ul style="list-style-type: none"> <li>Title TBD, <b>Richard A.L. - Stellantis</b></li> </ul>		
16.50-17.10	<ul style="list-style-type: none"> <li>Title TBD, <b>Speaker TBD - Renault</b></li> </ul>		
17.10-17.30	<ul style="list-style-type: none"> <li>ACEA view, <b>Dolejsi P. - ACEA</b></li> </ul>		
17.30	Final Remarks		

## Social programme (*in-person attendees only*)

### Tuesday, June 21

08.00 pm

Congress Dinner & Guided Tour of the MAUTO (National Car Museum) exhibition itinerary

Corso Unità d'Italia, 40, Turin

### Thursday, June 23

Morning - Technical tours

(PUNCH, POLITO CARS Lab, Stellantis wind tunnel, others TBD)