

SEPTEMBER 18TH, 2024

09:00-13:00	Registration	
	SALA APOLLO	
9:45-10:15	<p>Laura Tribioli, University of Rome Niccolò Cusano Xandra Margot, CMT – Universitat Politècnica de València Ezio Mancaruso, STMS - CNR/SAE International Naples Section</p>	
	SALA APOLLO - Keynote Chairpersons: Xandra Margot	
10:15-11:00	Muratori, M., National Renewable Energy Laboratory - Electric Vehicles: A Sustainable Solution for Transportation Systems	
11:00-11:20	Coffee Break	
	SALA APOLLO - CSM3 Smart Mobility Chairperson: Xandra Margot	
11:20-11:40	2024-24-0026	Hitz, A., Efficient GPS route matching method for battery electric bus fleets
11:40-12:00	2024-24-0024	Saafi, M. A., Investigating the Future of Road Freight Transport Under Different Scenarios
12:00-12:20	2024-24-0025	Villani, M., Optimal Eco-driving with Infrastructure-to-Vehicle Communication for Speed Adaptation based on Real-time Dynamic Macroscopic Traffic
12:20-12:40	Oral Only	Sequino, L., Analysis of the effects of road conditions on the brake wear with the support of experimental measurements and urban mobility simulations
12:40-13:00	Oral Only	De Santis, M., Power Quality and Filtering of Railway Traction Power Substations
13:00-13:20	Oral Only	Delle Site, P., Are electric car incentives equitable? An economic perspective
13:20-14:20	Lunch	
	SALA APOLLO - CSM1 Alternative Powertrains Chairperson: Giovanni Di Ilio	
14:20-14:40	2024-24-0004	Beltrami, D., Optimization with Dynamic Programming of the Energy Management Strategy for a Fuel Cell Hybrid Heavy-Duty Truck Minimizing Hydrogen
14:40-15:00	2024-24-0005	Beltrami, D., Electrifying Vocational Trucks: an Overview of Advancements and Challenges in Electric and Hybrid Powertrains with Emphasis on Auxiliary
15:00-15:20	2024-24-0014	Knaup, L., Simulative potential analysis of electrified trailer systems in long-haul truck applications
15:20-15:40	2024-24-0008	Aliberti, P., Co-optimization of a fuel cell hybrid heavy-duty vehicle using a state machine control
17:00-19:00	Visit to Monastero dei Benedettini	
19:30-22:00	Informal Dinner @ Conference Venue (Hotel Nettuno)	

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08:30-13:00	Registration	
	SALA APOLLO	
	Chairperson: Daniele Chiappini	
09:00-10:00	Rizzoni, G., The Ohio State University - Prediction of battery remaining useful life using in-vehicle data	
	SALA APOLLO - CSM2 Energy Storage Systems Chairperson: Daniele Chiappini	SALA OLIMPO - CSM4 Conventional Vehicles Chairperson: Lorenzo Bartolucci
10:20-10:40	2024-24-0023	Acquarone, M., Sleek dual extended Kalman filter for battery state of charge and state of health estimation in electric vehicle applications
10:40-11:00	2024-24-0020	Gentilucci, G., Life cycle analysis of a PEM fuel cell system for long-haul heavy-duty trucks
11:00-11:20	Coffee Break	
	SALA APOLLO - CSM2 Energy Storage Systems Chairperson: Daniele Chiappini	SALA OLIMPO - CSM4 Conventional Vehicles Chairperson: Lorenzo Bartolucci
11:20-11:40	2024-24-0019	Andriano, G., Active cooling for the thermal management of batteries by means of pulsating channel flows
11:40-12:00	2024-24-0022	Rakhi, Numerical study of catalytic methanation reactions using a kinetic model
12:00-12:20	2024-24-0021	Mangeruga, V., A homogenization-based technique for a simplified numerical Finite Element approach to describe the structural behaviour of cylindrical cells battery pack
12:20-12:40	Oral Only	Mendecka, B., Compact Tractor 4.0: Development of an Operational Prototype of an Electrified Tractor for Specialized Cultivations
12:40-14:00	Lunch	

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SALA APOLLO - CSM1 Alternative Powertrains Chairperson: Manfredi Villani		SALA OLIMPO - CSM4 Conventional Vehicles Chairperson: Pierpaolo Poverino	
14:00-14:20	2024-24-0007 Frezza, D. , Development of a multi-zone thermal cabin model of a light duty EV	14:00-14:20	2024-24-0036 Avana, M. , Performance Analysis of Hydrogen Combustion under Ultra Lean Conditions in a Spark Ignition Research Engine using a Barrier Discharge Igniter
14:20-14:40	2024-24-0011 Lombardi, S. , Control strategy design for the thermal management system of an electric heavy quadricycle	14:20-14:40	2024-24-0035 Salahi, M. M. & Mahmoudzadeh, A. , Novel Chemical Kinetics Mechanism for Robust Simulation of Multi-Component Fuel Blends in Engine Conditions
14:40-15:00	2024-24-0012 Federici, L. , Preliminary Analysis of the energy performance of a Mild Hybrid Vehicle with focus on e-motor dynamic modeling	14:40-15:00	2024-24-0030 Fitz, P. , Dual Injection Concept and Lean Burn Characteristics with Methanol on a SI-Engine
15:00-15:20	2024-24-0017 Zembi, J. , Analysis of ICE-to-Electric Powertrain Conversion for a Small Size Waste Collection Vehicle	15:00-15:20	2024-24-0033 Frasci, E. , Modeling and experimental validation of a pure methanol-fueled small SI engine: impact of the laminar flame speed correlation
15:20-15:40	Oral Only Pulvirenti, L. , A Cutting-Edge Energy Management System relying on Soft Actor-Critic Reinforcement Learning	15:20-15:40	2024-24-0044 Sebai, S. , Numerical and Experimental Analysis of Dual Fuel Hydrogen/Diesel Combustion at Varying Engine Speed on a Single Cylinder Engine
15:40-16:00	Coffee Break		
SALA APOLLO - CSM1 Alternative Powertrains Chairperson: Luca Pulvirenti		SALA OLIMPO - CSM4 Conventional Vehicles Chairperson: Federico Ricci	
16:00-16:20	2024-24-0010 Koerfer, T. , Advanced engineering tools and methodologies to develop fuel-efficient and zero-impact H2 engines for on- and off-highway installations	16:00-16:20	Oral Only Duronio, F. , CFD Analysis of Hydrogen Under-Expanded Jets for Application in Advanced Propulsion Systems
16:20-16:40	2024-24-0001 Poverino, P. , Machine learning based design of optimal energy management strategy for hydrogen-fueled hybrid vehicle powertrain	16:20-16:40	2024-24-0028 Noone, P. , Emission Optimization of the Cold Start Behavior of a CNG Engine with an Electrically Heated Catalyst and Secondary Air Injection
16:40-17:00	Oral Only Antetomaso, C. , A 0-D model to investigate metal-foam adoption in PEM Fuel Cell	16:40-17:00	2024-24-0037 Saafi, M. A. , Techno-economic Analysis of mobile Carbon Capture for Heavy Duty Applications
17:00-17:20	2024-24-0015 Marinoni, A. , Optimization of a virtual H2 engine using a 1D simulation tool targeting high engine performance along with near-zero emission levels.	17:00-17:20	2024-24-0041 Catapano, F. , Study of particle emissions due to brake wear: impact of braking profiles and temperature
17:20-17:40	2024-24-0006 Cennamo, E. , Hardware-in-the-Loop platform for Fuel Cell Hybrid Electric Microcar: Fuel Cell stack sizing using real-time testing approach	17:20-17:40	Oral Only Magno, A. , Particle emissions from a SI engine fueled with methane and hydrogen: impact of lubricant oil
20:00	Gala Dinner @ Antico Rotolo - Via del Rotolo, 9, Catania		

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08:30-13:00	Registration		
SALA APOLLO			
Chairperson: Matteo Muratori			
09:15-10:00	Plá Moreno, B. , CMT – Universitat Politècnica de València - Smart Energy Management for Connected Vehicles: Paving the Way to Sustainable Mobility		
SALA APOLLO - CSM1 Alternative Powertrains			
Chairperson: Matteo Muratori			
10:00-10:20	2024-24-0013 Zhmud, B. , Modern Tools for Tribological Optimization of EV Transmissions and e-Axes		
10:20-10:40	2024-24-0002 Ehrenberg, B. , Towards an Analytical Method for a Combined Energy Management and Shift Strategy in Hybrid Electric Vehicles, and its Rule-Based		
10:40-11:00	Oral Only Donnini, M. , Development of data-driven EV Energy Consumption model: towards a support tool for new technologies comprehensive assessment		
11:00-11:20	Coffee Break		
SALA APOLLO - CSM1 Alternative Powertrains			
Chairperson: Laura Tribioli			
11:20-11:40	Oral Only Zembi, J. , Simulation of a City Bus Vehicle: Powertrain and Driving Cycle Sensitivity Analysis		
11:40-12:00	2024-24-0016 Mancaruso, E. , Investigation of Plug-in Hybrid Light Duty Commercial Vehicle in Real-World Conditions by Simulation		
12:00-12:20	2024-24-0009 Nacci, G. , EMS optimization of a series-hybrid urban bus with hydrogen-fueled engine accounting for NOx emissions and eco-driving		
12:30	Closing Remarks		