



ICE2023

16th International Conference
on Engines & Vehicles
for Sustainable Transport

Final Program

September 10th - 14th, 2023 @ Capri, Naples

Monday, 11th September

9:00	<p align="center">Registration Opening Ceremony Ezio Mancaruso SAENA President Giorgio Rizzoni & Bianca Maria Vaglieco Conference Chairs</p>	
9:10	<p align="center">David Schutt CEO of SAE Enterprise (USA)</p>	
9:20	<p align="center">European Collaborative Research on Road Transport and the Challenges of Resources Christof Schernus Vice-President FEV Europe GmbH Chairperson: Ezio Mancaruso</p>	
10:00	<p align="center">Coffee break</p>	
	Room Teatro	Room Donna Lucia
	<p>ICE101 - 0-D and 1-D Modeling and Numerics Chairperson: Angelo Onorati</p>	<p>ICE504 - Alternative Engine Architectures High Efficiency Concepts Chairpersons: Carlo Beatrice & Silvia Marelli</p>
10:30	<p>A fully predictive 1-D modelling framework for reactivity-controlled compression ignition engine via chemistry based multi-zone model 2023-24-0001 Alireza Kakooee, Aneesh Vasudev, Maciej Mikulski, University of Vaasa; Ben Smulter, Jari Hyvonen, Wartsila Finland Oy</p>	<p>Analysis of a Modern Twin-Spool Supercharged Gas Turbine Engine Concept for Hybrid Vehicle Applications 2023-24-0127 Badamasi Babaji, Kesty Yong Kenkoh, James W.G. Turner, King Abdullah University of Science & Technology</p>
10:50	<p>A Quasi-Dimensional Two-System Burn Rate Model for Pre-Chamber-Initiated SACI Combustion 2023-24-0002 Francesco Salerno, Andre Kulzer, Michael Bargende, IFS, University of Stuttgart; Michael Grill, FKFS; Patrick Burkardt, Marco Günther, Stefan Pischinger, TME, RWTH Aachen University</p>	<p>Free piston engines: numerical comparison of boxer and opposed configuration in 0D/1D environment Oral Only 23ICE-0444 Armando Maiello, Carlo Beatrice, Raffaele Saviano, Pierpaolo Napolitano, STEMS- CNR; Raffaele Capuano, Iveco Group – FPT Motorenforschung AG</p>
11:10	<p>Air Path Design, Technical Definition and Pre-Calibration of an Ultra-Lean Hydrogen Engine Based on 0D/1D Simulation 2023-24-0004 Rémi Dubouil, Nicolas Perrot, Guillaume Goumy, Pascal Chesse, Nantes Université, École Centrale Nantes</p>	<p>3D-CFD Modelling of Gas Exchange and Combustion Inside the Expander of a Recuperated Split-Cycle Engine 2023-24-0130 Lorenzo Sforza, Tommaso Lucchini, Politecnico di Milano; Alessandra Vaghini, FPT Motorenforschung AG; Colin Bennett, Nick Owen, Dolphin N2 Ltd</p>
11:30	<p>Development and Evaluation of the Predictive Capabilities of a Dual-Fuel Combustion Model with Methanol or Hydrogen in a Medium Speed Large Bore Engine 2023-24-0008 Jeroen Dierickx, Sebastian Verhelst, Ghent University; Luc Mattheeuws, Koen Christianen, Anglo Belgian Corporation; Karsten Stenzel, WTZ Rosslau</p>	<p>Exploring the Potential of Hydrogen Opposed Piston Engines for Single-Cylinder Electric Generators: A Computational Study 2023-24-0128 Antonello Volza, Francesco Scrignoli, Stefano Caprioli, Enrico Mattarelli, Carlo Alberto Rinaldini, Università di Modena e Reggio Emilia</p>
11:50	<p>Simulation of CNG Engine in Agriculture Vehicles. Part 1: Prediction of Cold Start Engine-Out Emissions Using Tabulated Chemistry and Stochastic Reactor Model 2023-24-0006 Reddy Babu Siddareddy, Michal Pasternak, LOGE Polska Sp. z o.o.; Tim Franken, BTU Cottbus-Senftenberg; Larisa Leon de Syniawa, LOGE AB; Sascha Prehn, Bert Buchholz, University of Rostock; Fabian Mauss, BTU Cottbus-Senftenberg</p>	<p>Simulative Estimation of a Super-High-Efficiency Stoichiometric Gasoline Engine with GT-Power 2023-24-0129 Tobias Stoll, Hans-Juergen Berner, FKFS; Andre Casal Kulzer, IFS, University of Stuttgart</p>
12:10	<p>A Joint Work to Develop a Predictive 1D Modelling Approach for Heavy Duty Gaseous Fueled Engines through Experiments and 3D CFD Simulations 2023-24-0007 Valentina Fraioli, Dario Di Maio, Pierpaolo Napolitano, STEMS-CNR; Davide Lanni, Gabriele D'Antuono, Enzo Galloni, DICEM - University of Cassino; Cyrille Callu, Dario Maestro, TotalEnergies OneTech</p>	<p>Super-critical Direct Water Injection as Energy Recovery Application on a Natural Gas ICE Oral Only 23ICE-0504 Roberto Ianniello, Michele Pipicelli, Giuseppe Di Luca, Carlo Beatrice, Gabriele Di Blasio, STEMS-CNR</p>

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Monday, 11th September

	Room Capri	Room Rotonda
	ICE204 - Combustion in Hydrogen Fueled Engines Chairpersons: Fabrice Foucher & Gilles Bruneaux	ICE 602 - Controls for Hybrids and Electric Powertrains Chairperson: Nicolò Cavina
10:30	Experimental Combustion Analysis in a Gasoline Baseline Hydrogen-Fueled Internal Combustion Engine at Ultra-Lean Conditions 2023-24-0073 Caio Ramalho Leite, Mathieu Laignel, Pierre Brequigny, Fabrice Foucher , Université d'Orléans; Jacques Borée , ISAE-ENSMA (Poitiers)	Predictive Activation Strategy for Health-Conscious Energy Management of Multi-Module Fuel Cell Systems in Heavy-Duty Long-Haul Electric Trucks 2023-24-0138 Alessandro Ferrara, Christoph Hametner , TU Wien
10:50	Experimental investigation on the optimal injection and combustion phasing for a direct injection hydrogen-fueled internal combustion engine for heavy-duty applications Oral Only 23ICE-0471 Federico Millo, Francesco Pucillo, Andrea Piano , Politecnico di Torino	Fuel Consumption Potential Gains of Rankine Thermal Power Recovery for Series Hybrid Electric Vehicles 2023-24-0139 Willy Cottin, Sébastien Houillé, Wissam Bou Nader Stellantis; Guillaume Colin, Mickaël Moreira, Alain Charlet , Université d'Orléans
11:10	Variable Compression Ratio Hydrogen-Fueled Homogeneous Charge Compression Ignition Engine 2023-24-0067 Ducduy Nguyen, Renston Fernandes, James W.G. Turner , King Abdullah University of Science & Technology	Improving Computational Efficiency for Energy Management Systems in Plug-in Hybrid Electric Vehicles Using Dynamic Programming based Controllers 2023-24-0140 Matteo Spano, Pier Giuseppe Anselma, Daniela Misul, Nicola Amati , Politecnico di Torino; Giorgio Rizzoni , The Ohio State University
11:30	Hydrogen ICE Combustion Challenges 2023-24-0077 Ernst Winklhofer, Bernhard Jocham, Harald Philipp, Paul Kapus, Daniel Leitner, Rene Heindl, Nilton Diniz-Netto , AVL LIST GmbH	Control Algorithms for xEV Powertrain Efficiency and Thermal Comfort 2023-24-0142 Nikolaos Aletras, Dimitrios Besinas, Georgios Livitsanos, Grigorios Koltsakis, Zissis Samaras, Leonidas Ntziachristos , Aristotle University of Thessaloniki
11:50	Impact of Hydrogen on the Ignition and Combustion Behavior Diesel Sprays in a Dual Fuel, Diesel-Piloted, Premixed Hydrogen Engine 2023-24-0061 Rajavasanth Rajasegar, Ales Srna, Taesong Lee , Sandia National Laboratories	Development of an Energy Management System to Maximize Fuel Cell Operating Life Oral Only 23ICE-0502 Luciano Rolando, Luca Pulvirenti, Afanasie Vinogradov, Benedetta Peiretti Paradisi, Andrea Piano, Federico Millo , Politecnico di Torino
12:10	Impact of Splitting n-Dodecane Pilot Injection on Ammonia RCCI Engine 2023-24-0076 Christine Mounaim Rousselle, Pierre Brequigny, Anthony Dupuy , Université d'Orléans	Development of a Deep Q-Learning Energy Management System for a Plug-in Hybrid Electric Vehicle Oral Only 23ICE-0504 Luigi Tresca, Luca Pulvirenti, Luciano Rolando, Federico Millo , Politecnico di Torino
12:30	ICE103 - Combustion and Flow Diagnostics Chairpersons: Fabrice Foucher & Gilles Bruneaux	Development and experimental validation of a deep neural network model for the prediction of the energy recovery performance of a heavy-duty hybrid electric vehicle Oral Only 23ICE-0565 Andrea Altomonte, Giovanni Di Ilio, Elio Jannelli , University of Naples Parthenope
	Methanol Evaporation in an Engine Intake Runner under Various Conditions 2023-24-0018 Yi-Hao Pu, Tara Larsson, Tom Robeyn, Michel De Paepe, Sebastian Verhelst , Ghent University	

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Monday, 11th September

	<i>Room Teatro</i>	<i>Room Donna Lucia</i>
	ICE101 - 0-D and 1-D Modeling and Numerics Chairperson: Angelo Onorati	ICE503 - Thermal Systems Modeling and Simulation Chairpersons: Luigi Sequino & Sam Akehurst
12:30	Application of a One-Dimensional Dilution and Evaporation Lubricant Oil Model to Predict Oil Evaporation under Different Engine Operative Conditions Considering a Large Hydrogen-Fuelled Engine 2023-24-0009 Edoardo De Renzis, Valerio Mariani, Gian Marco Bianchi, Stefania Falfari, Giulio Cazzoli, University of Bologna	Influence of Characterising Materials Thicknesses on the Thermal Response of Cylindrical Battery Cells 2023-24-0124 Alberto Broatch, Pablo Olmeda, Xandra Margot, Kundan Kumar, CMT- Universitat Politècnica de València
12:50	Experimental and numerical analysis of waste-gated turbine for turbocharging system Oral Only 23ICE-0540 Carla Cordalunga, Silvia Marelli, Vittorio Usai, Università di Genova	Distribution of Cooling Structures in Water Cooled Electrical Machines using Localized Loss Profiles 2023-24-0126 Christoph Ellenrieder, Benedikt Reick, André Kaufmann, Ravensburg-Weingarten University; Marcus Geimer, Karlsruhe Institute of Technology
13:10		Evaluation of TPMS Structures for the Design of High Performance Heat Exchangers 2023-24-0125 Federico Torri, Fabio Berni, Stefano Fontanesi, Sara Mantovani, Mauro Giacalone, Silvio Defanti, Elena Bassoli, Giulia Colombini, Università di Modena e Reggio Emilia
13:30	Lunch break	

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Monday, 11th September

	Room Capri	Room Rotonda
	ICE103 - Combustion and Flow Diagnostics Chairpersons: Fabrice Foucher & Gilles Bruneaux	ICE403 - PM Non-Exhaust emissions Chairperson: Zissis Samaras
12:50	High-Speed 2-D Raman and Rayleigh Imaging of a Hydrogen Jet Issued from a Hollow-Cone Piezo Injector 2023-24-0019 Bin Wu, Priybrat Sharma, Hao Wu, Moez Ben Houidi, Niraj Panthi, William Roberts, Gaetano Magnotti , King Abdullah University of Science & Technology; Tao Yu , McGill University; Lucia Palombi , Sapienza Università di Roma	Experimental investigation of brake wear particle emissions: effects of braking intensity and temperature Oral Only 23ICE-0508 Francesco Catapano, Silvana Di Iorio, Agnese Magno, Paolo Sementa , STEMS-CNR
13:10	Effects of Engine Speed on Prechamber-Assisted Combustion 2023-24-0020 Lucia Palombi , Sapienza Università di Roma; Priybrat Sharma, Gaetano Magnotti , King Abdullah University of Science & Technology; Emre Cenker , Saudi Aramco	Brake Wear Testing: Round the Corner Solution for a New Challenge Oral Only 23ICE-0558 Giulio Marmorato , AVL Italia SRL
13:30	Lunch Break	

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Monday, 11th September

	Room Teatro	Room Donna Lucia
	ICE605 - Battery and Energy Storage Systems for Electric Mobility Chairpersons: Matilde D'Arpino & Francesco Porpora	ICE203 – Homogenous Charge Partially, Premixed Compression Ignition & Dual-Fueled Engines Chairpersons: Fadila Maroteaux
14:30	Thermal Runaway Characterization in an Optically Accessible Vessel: Effect of Battery Cell Chemistry and State of Charge 2023-24-0165 Lucas Richardet, Michele Bardi, Matthieu Lecompte, Vincent Brocchetto , IFPEN-Institut Carnot; Stéphanie de Persis , ICARE-CNRS, Université d'Orléans	CFD Analysis of Different Biogas Upgrading Levels for Dual-Fuel Operation in Diesel Engines 2023-24-0055 Túlio Augusto Zucareli de Souza, Gustavo V. Frez, Gabriel Pinto, Roberto Costa, Luis Filipe A. Roque, Christian J. R. Coronado, Luís Pedro V. Vidigal , Federal University of Itajuba
14:50	Experimental Characterization of the Variability of the Thermal Runaway Phenomenon of a Li-ion Battery 2023-24-0160 Matthieu Lecompte, Michele Bardi, Stephane Chevillard, Sara Abada , IFP Energies Nouvelles-Institut Carnot; Lucas Richardet, Houssam Khaled, Adentis; Stéphanie de Persis , ICARE-CNRS, Université d'Orleans	Experimental Investigation on the Combustion of Biogas Containing Hydrogen in a HCCI Engine 2023-24-0056 Antonio Mariani, Andrea Unich, Mario Minale , Università Campania Vanvitelli Napoli; Pierre Brequigny, Jean-Baptiste Masurier, Fabrice Foucher , University Orléans
15:10	Thermal Model for the analysis of the Thermal Runaway in Lithium-Ion Batteries using Accelerating Rate Calorimetry 2023-24-0162 Jaime Martin, Javier Monsalve-Serrano, Carlos Micó, Imad Elkourchi, Antonio Garcia , Universitat Politecnica de Valencia	Numerical Investigation of Ammonia-Diesel Fuelled Engine Operated in RCCI Mode 2023-24-0057 Amir Hossein Fakhari, Ayat Gharehghani , Iran University of Science and Technology; Mohammad Mahdi Salahi, Amin Mahmoudzadeh Andwari, Juho Könnö , University of Oulu; Maciej Mikulski , University of Vaasa; Jacek Hunicz , Lublin University of Technology
15:30	Comparison of Li-ion battery cell thermal runaway in different optically accessible facilities Oral Only 23ICE-0474 Michele Bardi, Matthieu Lecompte, Vincent Brocchetto , IFPEN-Institut Carnot; Antonio Garcia, Jose V. Pastor, Javier Monsalve-Serrano, Carlos Guaraco-Figueira , Universitat Politecnica de Valencia; Lucas Richardet , IFPEN-Carnot; Stephanie de Persis , ICARE-CNRS	Theoretical Analysis of Multi-Zone and Transported Probability Density Function Approaches Applied to Low Temperature Combustion Process 2023-24-0060 Fadila Maroteaux, Pierre-Lin Pommier , Université de Versailles St. Quentin En Yveline; Ezio Mancaruso, Bianca Maria Vaglieco , STEMS-CNR
15:50	Coffee break	

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Monday, 11th September

	Room Capri	Room Rotonda
	ICE402 - Emissions Measurement and Testing Chairpersons: Zissis Samaras & Silvana Di Iorio	ICE302 - Alternative and Advanced Fuels Chairpersons: Stefania Esposito & Vincenzo Mulone
14:30	The Potential of On-Board Data Monitoring for the Characterization of Real-World Vehicle Fuel and Energy Consumption and Emissions 2023-24-0113 Athanasios Dimaratos, Dimitrios Kontses, Stylianos Doulgeris, Nikiforos Zacharof, Arsenios Keramidas, Georgios Stamos, Alexandros Papageorgiou-Koutoulas, Zissis Samaras, Aristotle University of Thessaloniki	Renewable Alternatives for Fossil Fuels in Non-Road Mobile Machinery: A Multicriteria Analysis 2023-24-0086 Quinten Dejaegere, Sebastian Verhelst, Ghent University
14:50	Prediction of Real-world Emissions from Direct Injection Gasoline Vehicle Using On-road Driving Emission Measurement Data Oral Only 23ICE-0425 Susumu Sato, Chanpaya Eang, Jiaxin Chen, Tokyo Institute of Technology; Kotaro Tanaka, Ibaraki University; Takeshi Tange, Niterra Co Ltd	ϕ -Sensitivity Evaluation of n-Butanol and Iso-Butanol Blends with Surrogate Gasoline 2023-24-0089 Nika Alemahdi, Martin Tuner, Lund University; Antonio Garcia, Universitat Politecnica de Valencia
15:10	Comparing Real Driving Emissions from Euro 6d Vehicles Running on E0 and E10 Gasoline Blends Oral Only 23ICE-0563 James Edward Hobday, Emissions Analytics	Investigation of the effects of pure methanol fueling on performance, efficiency, and emissions in a small SI engine Oral Only 23ICE-0290 Emmanuele Frasci, Ivan Arsie, Elio Jannelli, Università di Napoli Parthenope; Paolo Sementa, STEMS-CNR
15:30	Carbon footprint calculators for personal travel: a survey Oral Only 23ICE-0317 Paolo Delle Site, Laura Tribioli, University of Rome Niccolo' Cusano	Impact of Ethanol Additions on Gasoline Autoignition: High- to Low-Temperature Regimes and Elevated Pressures Oral Only 23ICE-0391 Khalid Aljohani, KAUST
15:50	Coffee break	

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Monday, 11th September

	<i>Room Teatro</i>	<i>Room Donna Lucia</i>
	ICE601 - Advanced Hybrid and Electric Vehicle Powertrains Chairpersons: Laura Tribioli	ICE603 - Hydrogen and Fuel Cell Vehicle Applications Chairpersons: Manfredi Villani
16:20	Modeling and Experimental Validation of a Hybrid Electric Propulsion System for Naval Applications 2023-24-0131 Renato Marialto, Paolo Sementa, STEMS-CNR; Gianluca Brando, Adolfo Danner, Massimo Cardone, Enrico Fornaro, Università degli Studi di Napoli	The role of hydrogen for the future of mobility: challenges and opportunities Oral Only 23ICE-0566 Andrea Rinaldi, AVL Italia
16:40	Energy and Pollutants analysis of a Series HEV Equipped with a Hydrogen-Fueled SI Engine 2023-24-0132 Emmanuele Frasci, Gianluca Nacci, Ivan Arsie, Elio Jannelli, Università di Napoli Parthenope; Davide Cervone, Università degli Studi di Salerno; Paolo Sementa, Bianca Maria Vaglieco, STEMS-CNR	Comparative Assessment of Zero CO2 Powertrain for Light Commercial Vehicles 2023-24-0150 Michele Pipicelli, Gabriele Di Blasio, STEMS-CNR; David Sedarsky, Lucien Koopmans, Chalmers University of Technology; Alfredo Gimelli, Università di Napoli Federico II
17:00	Analytical and Experimental Handling Performance of Ultra-Efficient Lightweight Vehicles 2023-24-0135 Emanuele Musso, Giorgio Previati, Gianpiero Mastinu, Politecnico di Milano	Fuel Cell Hybrid Electric Vehicle Control: Driving Pattern Recognition Techniques to Improve Vehicle Energy Efficiency 2023-24-0147 Lorenzo Bartolucci, Edoardo Cennamo, Stefano Cordiner, Marco Donnini, Federico Grattarola, Vincenzo Mulone, Ferdinando Pasqualini, University of Rome Tor Vergata
17:20	A New Generation of Hydrogen Fueled Hybrid Propulsion Systems for the Urban Mobility of the Future Oral Only 23ICE-0487 Federico Millo, Benedetta Peiretti Paradisi, Politecnico di Torino; Ivan Arsie, Università di Napoli Parthenope; Michele Battistoni, Università degli Studi di Perugia; Roberto Cipollone, Università degli Studi dell'Aquila; Enrico Corti, University of Bologna	Simulation-based Assessment of Fuel Economy Performance in Heavy-Duty Fuel Cell Vehicles 2023-24-0146 Marco Sorrentino, Giuseppe Bevilacqua, Giovanni Bove, Cesare Pianese, Università di Salerno
17:40	Simulation of Customer Usage: RENAULT's Approach for Electric Powertrains 2023-24-0134 Bruno Bernard, Frederic Atlan, Damien Maroteaux, RENAULT SAS	Modelling of a Hybrid Quadricycle (L6e vehicle) Equipped with Hydrogen Fueled ICE Range Extender and Performance Analysis on Stochastic Drive Cycles Generated from RDE Profile 2023-24-0149 Davide Cervone, Massimo Sicilia, Marco Romano, Pierpaolo Polverino, Cesare Pianese, Università degli Studi di Salerno; Emmanuele Frasci, Ivan Arsie, Università di Napoli Parthenope; Paolo Sementa, STEMS-CNR
18:10	SAE-NA Naples Section Meeting	
20:00	Informal dinner	

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Monday, 11th September

	Room Capri	Room Rotonda
	ICE608 - Physical, virtual and mixed test methods for efficient powertrain concepts Chairpersons: Danilo Engelmann & Benedikt Reick	ICE302 - Alternative and Advanced Fuels Chairpersons: Stefania Esposito & Vincenzo Mulone
16:20	Decoupling Effects in Wet-Running Multi Plate Clutches – Extended and Efficient Use in Hybrid Drive Trains 2023-24-0179 Arne Bischofberger, Katharina Bause, Sascha Ott, Albert Albers, Karlsruhe Institute of Technology	Statistical Treatise on Critical Biodiesel (B100) Quality Properties in the United States from 2004-2022 2023-24-0097 Robert McCormick, National Renewable Energy Laboratory; Teresa Alleman, Holly Energy Partners; Richard Nelson, Enersol Resources
16:40	Hardware-in-the-Loop Testing for Optimizing Inverter Performance in Electric Vehicles 2023-24-0178 Gergely Kiss, Francesco Duchi, Tim Steinhaus, AVL LIST GmbH	Investigation of Fuel Metals Impact on Tier 4B Off-Road Engine Exhaust Aftertreatment Systems Oral Only 23ICE-0340 Marco Federico Pidria, Chris Walters, IVECO Group; Riley Abel, Jonathan Burton, Petr Sindler, Matthew Thornton, Robert McCormick, National Renewable Energy Laboratory
17:00	Battery Electric Vehicle-in-the-Loop Power and Efficiency Measurement Test Method 2023-24-0182 Philip Rautenberg, Michael Frey, Frank Gauterin, Karlsruhe Institute of Technology; Benedikt Reick, Ravensburg-Weingarten University of Applied Sciences; Danilo Engelmann, Bern University of Applied Sciences TI	New Low Metals Grade in the ASTM D6751 B100 Fuel Quality Standard and Future Plans for Biodiesel Quality Standards for 2030 and Beyond Oral Only 23ICE-0395 Steve Howell, MARC-IV Consulting
17:20	Electric Vehicle Supply Equipment - Testing of Smart Grid Functionality Oral Only 23ICE-0402 Bernd Wille-Hausmann, Fraunhofer Institute for Solar Energy Systems; Regina Roos, Typhoon Hil GmbH	Impact of conventional and alternative diesel fuels on gasoline contamination and their characterization using unwashed gums Oral Only 23ICE-0371 Lucia Giarracca, Mickaël Matrat, IFP Energies Nouvelles; Hidenori Moriya, Takashi Nomura, Toyota Motor Corp
17:40	A Methodology to Support the Hybridization of Non-Road Mobile Machinery Oral Only 23ICE-0501 Afanasie Vinogradov, Luciano Rolando, Federico Millo, Politecnico di Torino; Nicola Scinicariello, Paolo Fregni, Simone Gaioli, Kohler Engines	
18:10	SAE-NA Naples Section meeting	
20:00	Informal dinner	

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Tuesday, 12th September

08:30	Registration	
9:00	How Important a diversified Powertrain Mix is to fulfill the Global Mobility Demand Marc Sens Senior Vice President IAV GmbH Chairperson: Giorgio Rizzoni	
9:40	Coffee break	
	Room Teatro	Room Donna Lucia
	ICE102 - Multi-Dimensional Engine Modeling Chairpersons: Stefano Fontanesi & Xandra Margot	ICENA301 - Fuel Injection and Sprays Chairpersons: Alessandro Montanaro & Michele Battistoni
10:10	Predictive 3D-CFD Model for the Analysis of the Development of Soot Deposition Layer on Sensor Surfaces 2023-24-0012 Fabrizio D'Orrico, Giuseppe Cicalese, R & D CFD Srl; Sebastiano Breda, Stefano Fontanesi, Università di Modena e Reggio Emilia; Ivan Cozza, Sergio Tosi, Punch Torino SpA	Influence of the Injection Timing on the Mixture Formation Process in a Spark-Ignition Hydrogen Fuelled ICE 2023-24-0079 Giuseppe Anaclerio, Marco Torresi, Sergio Camporeale, Politecnico di Bari; Tommaso Capurso, ENSAM Paris
10:50	Application of a Machine Learning Approach for Selective Catalyst Reduction Catalyst 3D-CFD Modeling: Numerical Method Development and Experimental Validation 2023-24-0014 Ivan Flaminio Cozza, Maria Pia Centini, Francesco Sapio, Punch Torino SpA; Venkatesh Gopalakrishnan, General Motors; Giacomo Buitoni, Marco Tabarrini, STSE srl	Hydrogen Spray Simulation with a Hollow-Cone Injector Oral Only 23ICE-0536 Abdullah Zaihi, King Abdullah Univ. of Science & Technology
11:10	Thermodynamic and Tribological Analysis of an Innovative Mechanism for Reciprocating Machines 2023-24-0016 Vasileios Georgitzikis, LESS Engineering; Sebastiano Breda, Stefano Fontanesi, Università di Modena e Reggio Emilia; Christos Kalligeros, Vasilios Spitas, Nikolaos Rogkas, Panteleimon Tzouganakis, National Technical University of Athens; Giuseppe Cicalese, Fabrizio D'Orrico, R & D CFD Srl	Analysis Of Hydrogen Injections for Possible Application In Internal Combustion Engines Oral Only 23ICE-0304 Luigi Allocca, Alessandro Montanaro, STEMS-CNR; Angelo De Vita, Francesco Duronio, Università degli Studi dell'Aquila
11:30	Investigation via Finite Element Analysis of the Influence of Boiling on the Thermo-Structural Behavior of the Engine Head of a High-Performance Combustion Engine 2023-24-0184 Andrea Piergiacomini, Saverio Giulio Barbieri, Fabio Renzo, Valerio Mangeruga, Matteo Giacomini, University of Modena and Reggio Emilia	CFD Lagrangian modelling of ammonia direct injection spray: a correlation across flash boiling and evaporative conditions Oral Only 23ICE-0548 Jacopo Zemi, Michele Battistoni, Università degli Studi di Perugia
11:50	Computational Assessment of Ammonia as a Fuel for Light-Duty SI Engines 2023-24-0013 Mickael Silva, Fahad Almatrafi, Kalim Uddeen, Emre Cenger, Jaeheon Sim, Mourad Younes, Aqil Jamal, Saudi Aramco; Thibault Guiberti, James Turner, Hong Im, King Abdullah University of Science & Technology	Analysis of Helium Jet Structure and Velocity using PIV Measurement Technique Oral Only 23ICE-0557 Giovanni Cecere, Adrian Irimescu, Simona Silvia Merola, Bianca Maria Vaglieco, STEMS-CNR; Mats Andersson, Chalmers Univ. of Technology

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Tuesday, 12th September

	Room Capri	Room Rotonda
	ICE201 - Combustion in Spark Ignition Engines: Basic, alternative fuels & Abnormal Combustion Chairpersons: Simona S. Merola & Christine M. Rousselle	ICE401 - Exhaust Emission Control: Systems New Developments and modeling Chairperson: Gianluca Montenegro
10:10	Numerical Investigation on the Cause-and-Effect Chain for Cycle-to-Cycle Variation of Direct-Injection Spark-Ignition Engine 2023-24-0035 Ye Feng, Andre Kulzer, University of Stuttgart; Michael Grill, FKFS	Coupled Engine and After-Treatment Simulation for Fuel Efficient EU7 Technologies 2023-24-0104 Vasileios Tziolas, Grigorios Koltsakis, Aristotle University of Thessaloniki; Kleoniki Chatzipartali, Exothermia SA
10:50	Evaluation of Different Gasoline Formulations on a High-Performance Engine 2023-24-0038 Marius Graßmeyer, Frank Atzler, Technische Universitaet Dresden	Virtual Development of Control Coordinator for Engine and Aftertreatment Architecture Equipped with Diesel Fuel Burner 2023-24-0103 Chiara Pozzi, Claudio Ciaravino, Antonio Donniacuo, Paolo Ferreri, Giuseppe Previtero, Punch Torino SpA; Federico Chen, Nicola Totaro, Punch Softronix Srl; Rahul Mital, General Motors LLC
11:10	A Comparison of Methanol, Methane and Hydrogen Fuels for SI Engines: Performance and Pollutant Emissions 2023-24-0037 Francesco Catapano, Silvana Di Iorio, Agnese Magno, Paolo Sementa, Bianca Maria Vaglieco, STEMS-CNR	Experimental and Numerical Analysis of a Swirled Fuel Atomizer for an Aftertreatment Diesel Burner 2023-24-0106 Lucio Postriotti, Michele Battistoni, Jacopo Zempi, Università degli Studi di Perugia; Gabriele Brizi, STSE s r l; Marco La Sana, Mauro Brignone, Francesco Napoli, Salvatore Pizza, Emanuele Milani, Marelli
11:30	An Experimental Characterization of Gasoline/Ozone/Air Mixtures in Spark Ignition Engines 2023-24-0039 Fabio Anaclerio, Francesco Fornarelli, Università degli studi di Foggia; Gianmarco Saponaro, Sergio Camporeale, Politecnico di Bari; Ezio Mancaruso, STEMS-CNR; Carlo Mazzarella, Centro Ricerche Fiat S.p.a; Vinicio Magi, Università degli Studi della Basilicata	Full-scale CFD prediction of the performance of advanced after treatment systems during severe RDE test cycles Oral Only 23ICE-0412 Andrea Sartirana, Angelo Onorati, Augusto Della Torre, Gianluca Montenegro, Politecnico di Milano; Naroa Zaldua-Moreno, Lorenzo Pace, Vitesco Technologies
11:50	Soot Modeling of GTDI Engines Using a Recently Developed Turbulent Premixed Combustion Model Implemented with an Improved TRF Mechanism and a Practical Semi-Detailed Soot Model 2023-24-0044 Shiyong Yang, Ford Motor Company	On-Board Monitoring of Emissions in the Future Euro 7 Standard 2023-24-0111 Vicente Franco, Panagiota Dilara, Nils Hennig, European Commission, DG GROW; Dario Manara, Fabrizio Forloni, European Commission, JRC; Ian Short, Ricardo; Norbert Ligterink, TNO Automotive; Markus Ehrly, FEV Europe GmbH; Dimitrios Kontses, Zissis Samaras, Aristotle University of Thessaloniki

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Tuesday, 12th September

	Room Teatro	Room Donna Lucia
	ICE605 - Battery and Energy Storage Systems for Electric Mobility Chairpersons: Giorgio Rizzoni & Clemente Capasso	ICE302 - Alternative and Advanced Fuels Chairpersons: Stefania Esposito & Vincenzo Mulone
12:10	Multi-Dimensional Simulation of Battery Degradation during Fast-Charging with Active Thermal Management 2023-24-0157 Grigorios Koltsakis, Dimitrios Besinas, Spyridon Spyridopoulos, Apostolos Kanatas, Aristotle University of Thessaloniki; Odysseas Koutsokeras, Zisis Lampropoulos, EMISIA SA	Sustainability of Advanced ICES Based HEVs for Passenger Cars Fuelled with Alternative Fuels: A LCA Study in Comparison with BEV Technology 2023-24-0094 Livia Della Ragione, Giovanni Meccariello, Carlo Beatrice, STEMS-CNR; Raffaele Ricco, CRF-Stellantis
12:30	A State of Health Estimation Technique based on a Temperature and Ah Throughput Dependency Model of the Capacity Fade 2023-24-0158 Alberto Broatch, Pablo Olmeda, Xandra Margot, Luca Agizza, CMT Universitat Politècnica de València	Investigation of Liquid Lignin-Methanol Blends under Realistic Two-Stroke Marine Engines Conditions 2023-24-0085 Maurizio Lazzaro, Paolo Sementa, Francesco Catapano, Cinzia Tornatore, STEMS-CNR; Stefano Iannuzzi, Wärtsilä Services Switzerland Ltd; Michael Boot, Vertoro B.V. and Eindhoven University of Technology; Panos Kouris, Vertoro B.V.
12:50	Driving Style Effects on Road EV Battery Performance and Remaining Useful Life 2023-24-0169 Clemente Capasso, Luigi Iannucci, Luigi Sequino, Bianca Maria Vaglieco, Ottorino Veneri, STEMS- CNR	Study of high-pressure ammonia spray and combustion through optical diagnostics in marine engine-like conditions Oral Only 23ICE-0526 Paolo Sementa, Cinzia Tornatore, Francesco Catapano, Maurizio Lazzaro, STEMS-CNR
13:10	Experimental and Numerical Electro-Thermal Characterization of Lithium-Ion Cells for Vehicle Battery Pack Applications 2023-24-0159 Barbara Mendecka, Gino Bella, Paola Serao, University of Rome Niccolò Cusano; Vesselin Krassimirov Krastev, University of Rome Tor Vergata	
13:30	Lunch break	

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Tuesday, 12th September

	Room Capri	Room Rotonda
	ICE603 - Hydrogen and Fuel Cell Vehicle Applications Chairperson: Cesare Pianese	ICE303 - Automotive Lubricants Chairperson: Chiara Guido
12:10	Hydrogen Fuelled Urban Mobility: Life Cycle Assessment and Costs of Alternative Bus Powertrains Oral Only 23ICE-0490 Federico Millo, Luciano Rolando, Andrea Piano, Benedetta Peiretti Paradisi, Luca Pulvirenti, Afanasie Vinogradov , Politecnico di Torino	Application of Metal Oxide Gas Sensors for the Detection of Fuel Contamination in ICES Oil 2023-24-0101 Ambra Fioravanti, Luigi Sequino, Paolo Sementa , STEMS-CNR
12:30	A MATLAB/Simulink Model of a PEM Fuel Cell System Including Ageing Phenomenon 2023-24-0148 Giuseppe Corda, Sebastiano Breda, Alessandro D'Adamo , Università di Modena e Reggio Emilia	Insights on the effect of lubricant oil formulation on particles emission from gas engines Oral Only 23ICE-0469 Daide Di Domenico, Chiara Guido, Dario Di Maio, Pierpaolo Napolitano , STEMS-CNR
12:50	CFD Simulations and Potential of Nanofluids for PEM Fuel Cells Cooling 2023-24-0144 Alessandro D'Adamo, Giuseppe Corda, Fabio Berni, Martino Diana, Stefano Fontanesi , Università di Modena e Reggio Emilia	Twenty years of engine tribology research: Some important lessons to learn 2023-24-0102 Boris Zhmud, Daniel Basiri , Tribonex AB; Urban Morawitz, Daniel Schulz , Ford Werke GmbH
13:10	Modeling and Design of a PEM Fuel Cell System for Ferry Applications 2023-24-0145 Gianmarco Saponaro, Michele Stefanizzi, Marco Torresi, Sergio Camporeale , Polytechnic University of Bari; Emanuele Franchini , Isotta Fraschini Motori SpA	Research of the Properties of Engine Oil SAE 10W-40 During Operation in Vehicles Oral Only 23ICE-0385 Ivan Nahliuk, Mykhailo Nahliuk, Sergy Krivoshapov , Kharkov National Auto and Highway Univ; Andrey Grigorov , National Technical University «KhPI»
13:30	Lunch break	

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Tuesday, 12th September

	Room Teatro	Room Donna Lucia
	ICE203 - Homogenous Charge Partially, Premixed Compression Ignition & Dual-Fueled Engines Chairperson: Frank Atzler	ICE501 - CI & SI Engines Technology Chairperson: Paolo Sementa
14:30	Meta-Model Optimization of Dual-Fuel Engine Performance and Emissions Using Emulsified Diesel with Varying Water Percentages and Injection Timing 2023-24-0032 Youcef Sehili, Khaled Loubar, Clément Lacroix , GEPEA Laboratory, CNRS; Lyes Tarabet, Cerdoun Mahfoudh , Ecole Militaire Polytechnique	Indirect Assessment of Isentropic Efficiency in Turbocharger Turbines via Mechanical Efficiency Evaluation under Quasi-Adiabatic Test 2023-24-0121 Carla Cordalunga, Silvia Marelli, Vittorio Usai, Massimo Capobianco , Università di Genova
14:50	Experimental Analysis of a Single-Cylinder Large Bore Engine with External Supercharging in Diesel/CNG Dual-Fuel Mode 2023-24-0058 Luigi De Simio, Sabato Iannaccone, Vincenzo Pennino, Luca Marchitto , STEMS-CNR	Potentials of Air Path Variabilities and Water Injection in HD Gas Engines 2023-24-0120 Marius Betz, Peter Eilts , Technische Universität Braunschweig
15:10	Comparison of Premixed Fuel and Premixed Charge Operation for Propane-Diesel Dual-Fuel Combustion 2023-24-0059 Florian Mueller, Michael Guentner , RPTU University of Kaiserslautern-Landau	An Innovative Engine Concept to Support the Development of Carbon-Neutral Mobility Solutions: the PHOENICE project Oral Only 23ICE-0551 Toni Tahtouh , IFPEN-Carnot; Federico Millo, Luciano Rolando, Giuseppe Castellano , Politecnico di Torino; Mauro Brignone , Marelli Europe S.p.A.; Jeremy Temple Gidney , Johnson Matthey PLC; Nicolas Demeilliers , In Extenso Innovation Croissance; Gennaro Lucignano , Stellantis N.V.; Juan Sierra Castellanos , Garrett Motion France S.A.S; Francesco Bocchieri , FEV Group GmbH
15:30	Coffee break	

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Tuesday, 12th September

	Room Capri	Room Rotonda
	ICE403 - PM Non-Exhaust emissions Chairpersons: Zissis Samaras & Silvana Di Iorio	ICE202 - Combustion in CI Engines: Basic & alternative fuel Chairperson: Tommaso Lucchini
14:30	Evaluation of PM Emissions from Internal Combustion Engines, Electric and Plug-In Hybrid Vehicles by Using Emission Factors 2023-24-0116 Teresa Castiglione, Diego Perrone , University of Calabria; Massimo Polistina , University Hospital "R. Dulbecco" CZ	Development of a 5-Component Diesel Surrogate Chemical Kinetic Mechanism Coupled with a Semi-Detailed Soot Model with Application to Engine Combustion and Emissions Modeling 2023-24-0030 Shiyu Yang , Ford Motor Company; Ruicheng Yang , University of Michigan - Ann Arbor
14:50	HORIZON Europe Project AeroSolfid: GPF-Retrofit for Cleaner Urban Mobility 2023-24-0114 Lauretta Rubino, Andreas Mayer, Jan Czerwinski, Thomas Lutz, Lars Larsen , VERT Association; Danilo Engelmann , Berner Fachhochschule TI AFHB; Martin Lehmann , Mann+Hummel GmbH	Numerical Study on the Effect of Injector Nozzle Hole Number on Diesel Engine Performance under Plateau Conditions 2023-24-0033 Junliang Zhao, Ruomiao Yang, Yuchao Yan, Juan Ou, Zhentao Liu, Jinlong Liu , Zhejiang University
15:10	Exhaust Emission Toxicity Assessment for Two Different Modern Gasoline Vehicle Technologies 2023-24-0117 Georgios Tsakonas, Rodopi Stamatou, Anastasios Kotses, Antigone Lazou, Zissis C. Samaras , Aristotle University of Thessaloniki; Micol Introna, Ana Juárez-Facio, Sarah Steimer, Karine Elihn , Stockholm University	Experimental and 3D-CFD Analysis of Synthetic Fuel Properties on Combustion and Exhaust Gas Emission Characteristics in Heavy-Duty Diesel Engines 2023-24-0052 Kunihiro Shimizu, Tomoki Narushima, Ratnak Sok, Jin Kusaka , Waseda University
15:30	Coffee break	

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Tuesday, 12th September

	Room Teatro	Room Donna Lucia
	ICE601 - Advanced Hybrid and Electric Vehicle Powertrains Chairpersons: Ivan Arsie & Andrea Adinolfi	ICE102 - Multi-Dimensional Engine Modeling Chairpersons: Stefano Fontanesi & Xandra Margot
16:00	Fuel Cell/Battery Hybrid Lightweight Quadricycle with Metal Hydride Hydrogen Storage for Improved Performance 2023-24-0137 Laura Tribioli , Università di Roma Niccolo' Cusano; Giovanni Di Ilio , Elio Jannelli , Università di Napoli Parthenope	Effect of Start of Injection in a Hydrogen-Fueled DISI Engine: Experimental and Numerical Investigation 2023-24-0015 Fabio Santi Mortellaro , Nicola Silvestri , Francesco Zaffino , Massimo Medda , FERRARI S.p.A.; Matteo D'Elia , Veeraraghavan Viswanathan , Rainer Rothbauer , Convergent Science GmbH
16:20	Analytical Models for the Sizing Optimization of Fuel Cell Hybrid Electric Vehicle Powertrains 2023-24-0133 Daniel Carlos Da Silva , Laid Kefsi , Antonio Sciarretta , IFPEN-Carnot	CFD Modelling of Hydrogen-Fueled SI Engines for Light-Duty Applications 2023-24-0017 Federico Ramognino , Lorenzo Sforza , Gianluca D'Errico , Angelo Onorati , Politecnico di Milano; Josep Gomez-Soriano , Ricardo Novella , Universitat Politecnica de Valencia
16:40	Scaled Hardware in the Loop Simulation of the Electric Motors of a CVT for Agricultural Tractors 2023-24-0136 Damiano Chiarabelli , Pietro Marani , Massimo Martelli , Silvia Gessi , Consiglio Nazionale delle Ricerche; Erik Schaltz , Kaiyuan Lu , Aalborg University; Emiliano Mucchi , Università degli Studi di Ferrara	CFD modelling of a Marine Engine in dual fuel mode supplied with Methane/Hydrogen blends Oral Only 23ICE-0301 Maria Cristina Cameretti , Roberta De Robbio , Marco Palomba , Università di Napoli Federico II
17:00	Hybrid Storage System Management for Hybrid Electric Vehicles under Real Operating Conditions Oral Only 23ICE-0529 Carlo Beatrice , Ottorino Veneri , Clemente Capasso , STEMS-CNR; Zissis Samaras , Stylianos Doulgeris , Aristotle University of Thessaloniki;	Characterization of the combustion process of a passive pre-chamber gasoline engine through 3D-CFD simulations Oral Only 23ICE-0494 Federico Millo , Andrea Scalambro , Andrea Piano , Politecnico di Torino; Paolo Sementa , Silvana Di Iorio , Francesco Catapano , STEMS-CNR; Andrea Bianco , Powertech Engineering SRL
17:20	Advancing Automotive Powertrain Control Development: HiL Simulation in the Context of Electrification and Digitalization Oral Only 23ICE-0564 Emanuele Servetto , Powertech Engineering SRL	Toward the 50% Brake Thermal Efficiency: a 1D/3D Numerical Analysis of an Active Pre-Chamber SI Natural Gas Engine for Off-Road applications Oral Only 23ICE-0483 Dario Di Maio , Pierpaolo Napolitano , Carlo Beatrice , Chiara Guido , STEMS-CNR; Stefano Golini , FPT Industrial SpA; Lorenzo Sforza , Tommaso Lucchini , Politecnico di Milano

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	Room Capri	Room Rotonda
	ICE401 - Exhaust Emission Control: Systems New Developments and modeling Chairperson: Gianluca Montenegro	ICE202 - Combustion in CI Engines: Basic & alternative fuel Chairperson: Peter Eilts
16:00	Improvement of Post-Oxidation for Low-Emission Engines through 3D-CFD Virtual Development 2023-24-0107 Mario Pipolo, Andre Kulzer , University of Stuttgart; Marco Chiodi , FKFS; Yasuo Moriyoshi , Chiba University	Evaluation of Neat Methanol as Fuel for a Light-Duty Compression Ignition Engine 2023-24-0047 Antonio Garcia, Javier Monsalve-Serrano, María Guzmán Mendoza , Universitat Politècnica de Valencia; Patrick Gaillard , Aramco Fuel Research Center; Russell Durrett , General Motors LLC; Alberto Vassallo, Francesco Pesce , Punch Torino SpA
16:20	Towards H ₂ High-Performance IC Engines: Strategies for Control and Abatement of Pollutant Emissions 2023-24-0108 Margherita Bulgarini, Augusto Della Torre, Loris Barillari, Gianluca Montenegro, Angelo Onorati , Politecnico di Milano; Fabrizio Gullino, Roberto Tonelli , Ferrari S.p.A.	Effect of Intake Conditions (Temperature, Pressure and EGR) on the Operation of a Dual-Fuel Marine Engine with Methanol 2023-24-0046 Jeroen Dierickx, Quinten Dejaegere, Stan Devos, Bert De Cock, Sebastian Verhelst , Ghent University; Andreas Van Gijzeghem , Anglo Belgian Corporation
16:40	Wall Permeability Estimation in Automotive Particulate Filters 2023-24-0110 Callum Samuels, Ran Holtzman, Stephen Benjamin , Coventry University; Svetlana Aleksandrova , University of Leicester; Timothy C. Watling , Johnson Matthey; Humberto Medina , University of Nottingham	Study of Higher Alcohol Potential as a Drop-In Fuel for a High Thermal Efficiency Heavy-Duty Diesel Engine 2023-24-0049 Noboru Uchida, Fumihiko Kawaharazuka , New ACE Institute Co., Ltd.
17:00	Simulation of CNG Engine in Agriculture Vehicles. Part 2: Coupled Engine and Exhaust Gas Aftertreatment Simulations Using a Detailed TWC Model 2023-24-0112 Larisa Leon de Syniawa, Vivien Guenther , LOGE AB; Reddy Babu Siddareddy , LOGE Polska Sp. z o.o.; Sascha Prehn , University of Rostock; Tim Franken , BTU Cottbus-Senftenberg; Bert Buchholz , University of Rostock; Fabian Mauß , BTU Cottbus-Senftenberg	ICE502 - Thermal Systems Management Chairpersons: Luigi Sequino & Sam Akehurst
		Piston Pre-Heating Using a Pressurized-Heated Oil Buffer: A Practical Method to Reduce ICE Emissions and Fuel Consumption 2023-24-0123 Mirko Bovo, Mohammed Jaasim Mubarak Ali , Aurobay
17:20	A Consistent Dual-Mesh Framework for Hybrid LES/RANS Simulations of Vehicle Exhaust Plumes: Implications for Remote Emission Sensing 2023-24-0105 Justin Plogmann , EMPA, ETH Zürich; Panayotis Dimopoulos Eggenschwiler, Charles Pierce , EMPA; Patrick Jenny , ETH Zürich	Direct and Indirect Exhaust Heat Recovery from Turbocharged Heavy-Duty Engine 2023-24-0122 Marco Di Bartolomeo, Davide Di Battista, Fabio Fatigati, Roberto Cipollone , University of L'Aquila; Giorgio Cau , University of Cagliari

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Tuesday, 12th September

	<i>Room Teatro</i>	<i>Room Donna Lucia</i>
	ICE605 - Battery and Energy Storage Systems for Electric Mobility Chairpersons: Matilde D'Arpino & Faissal El Idrissi	ICE301 - Fuel Injection and Sprays Chairpersons: Alessandro Montanaro & José Vicente Pastor
17:40	Evaluation of Battery Power Losses During the LCA Use Phase of Electric Vehicles: An Experimental Analysis of Different Li-Ion Battery Chemistries 2023-24-0155 Luca Silvestri, Michele De Santis, Paola Serao, Gino Bella, Niccolò Cusano University; Giacomo Falcucci, University of Roma Tor Vergata	Experimental-Numerical Analysis of Gasoline Spray-Wall Impingement at Ultra-High Injection Pressure for GCI Application 2023-24-0082 Davide Viscione, Giacomo Silvagni, Stefania Falfari, Gian Marco Bianchi, Vittorio Ravaglioli, Valerio Mariani, University of Bologna; Luigi Allocca, Alessandro Montanaro, Giovanni Meccariello, STEMS-CNR
18:00	Battery Surface Temperature Measurement Correction for an Accelerating Rate Calorimeter with Sapphire Optical Access 2023-24-0164 Jose V. Pastor, Carlos Micó, Felipe Lewiski, Diego Golke, Universitat Politècnica de Valencia	X-ray Radiography Measurements of Spray Impingement on High-Temperature Glow Plug Ignition Assistance Systems Oral Only 23ICE-0361 Chi Young Moon, Ashwini Karmarkar, Brandon Sforzo, Alan Kastengren, Christopher Powell, Argonne National Laboratory; Eric Mayhew, Kenneth Kim, Jacob Temme, Chol-Bum Kweon, US Army DEVCOM Army Research Laboratory
18:20	Advantages of 3d and 1d Modeling a Li-Po Battery for the Prediction of Overheating under Real Driving Conditions 2023-24-0167 Luca Magri, Luigi Sequino, Cristian Ferrari, STEMS-CNR	Experimental Collision and Swirl of CFD Simulated Fuel Sprays in a Dual Injector Cylinder Head Concept 2023-24-0080 Marcos Gutierrez, Tablet School - UIDE; Diana Taco, Tablet School; Markus Bösenhofer, Michael Harasek, TU Wien; Andres Castillo, Juan Iniguez, Gorky Reyes, Denny Guanuche, Universidad Internacional Del Ecuador
18:40	Experimental Investigation on Thermal Effects of a Metal Foam-based Frame Application for Lithium-Ion Cells 2023-24-0168 Luigi Sequino, Clemente Capasso, STEMS-CNR; Girolamo Costanza, Maria Elisa Tata, Università degli Studi di Roma Tor Vergata	

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Tuesday, 12th September

	Room Capri	Room Rotonda
	ICE404 - Emissions from Combustion Sources Chairpersons: Antonino La Rocca & Barbara Apicella	ICE201- Combustion in Spark Ignition Engines: Basic, alternative fuels & Abnormal Combustion Chairprsons: Simona S. Merola & Christine M. Rousselle
17:40	Italian road transportation: possible routes to 2030 in a decarbonization optics Oral Only 23ICE-0477 Carlo Beatrice, Davide Di Domenico , STEMS-CNR; Vittorio Marzano, Daniela Tocchi, Ilaria Henke , University of Naples Federico II; Armando Carteni, Mariarosaria Picone , University of Campania Luigi Vanvitelli; Ennio Cascetta, Sergio Maria Patella , Universitas Mercatorum	Engine Efficiency Measurements Using a 100 kHz Radio Frequency Corona Igniter 2023-24-0041 Federico Ricci, Carlo Grimaldi, Michele Battistoni, Jacopo Zemi , Università degli Studi di Perugia; Stefano Papi, Massimo Dal Re , Federal Mogul Powertrain Italy Srl
18:00	Particulate Matter (PM) Characterization from a Light-Duty Compression Ignition Engine Fuelled with Hydrotreated Vegetable Oil (HVO) Oral Only 23ICE-0550 Federico Millo, Andrea Piano, Mohammadjavad Jafari Mahmoudabadi , Politecnico di Torino; Francesco Pesce, Alberto Vassallo , Punch Torino SpA; Corrado Fittavolini , ENI Div. R&M	Numerical and Experimental Investigation on Passive Prechamber Configurations Able to Operate at Low Engine Speed and Load 2023-24-0031 Giovanni Gaetano Gianetti, Tommaso Lucchini, Lorenzo Sforza, Angelo Onorati , Politecnico di Milano; Claudio Lombardi , Consultant Engineering; Carlo Cavagnero , Italtecnica
18:20	Insights into the role of lubricating oil in particles and other organic pollutant emissions from a hydrogen fueled DI SI engine through physical and chemical techniques Oral Only 23ICE-0544 Barbara Apicella, Silvana Di Iorio, Carmela Russo, Agnese Magno, Paolo Sementa, Francesco Catapano, Antonio Tregrossi, Bianca Maria Vaglieco , STEMS-CNR	Effects of Pre-Chamber Internal Shape on CH ₄ -H ₂ Combustion Characteristics Using Rapid-Compression Expansion Machine Experiments and 3D-CFD Analysis 2023-24-0043 Yixin Feng, Ryo Yamazaki, Ratnak Sok, Jin Kusaka , Waseda University
18:40	Reactivity of Diesel Soot from 6- and 8-Cylinder Heavy-Duty Engines 2023-24-0119 Samuel af Ugglas, Tayisiya Vlasenko, Anders Ersson , Scania CV AB; Lars Pettersson, Henrik Kusar , KTH Royal Institute of Technology	Fuel Stratification to Improve the Lean Limit in a Methane-Fueled Heavy-Duty Spark-Ignition Optical Engine 2023-24-0045 Niraj Panthi, Priybrat Sharma, Gaetano Magnotti , King Abdullah University of Science & Technology

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Wednesday, 13th September

8:30	Registration	
9:00	European Fuel Cells and Hydrogen: Welcome and Opening Ceremony <i>Antonio Garofalo</i> Magnifico Rettore Università degli Studi di Napoli Parthenope <i>Giorgio Graditi</i> Direttore Generale ENEA <i>Viviana Cigolotti</i> EFC23 Chairperson	
9:30	On the threshold of a Hydrogen Era Ibrahim Dincer Research Excellence Chair in Clean Hydrogen Energy Technologies, Ontario Technology University	
10:00	Hydrogen and Fuel cells Initiative in Japan - Roadmap and future perspectives Kazuyuki Imazato Representative Office in Europe, NEDO	
10:20	Hydrogen and Fuel cells Initiative in US - Roadmap and future perspectives Jack Brower Director of the National Fuel Cell Research Center (NFCRC) and Advanced Power and Energy Program (APEP), University of California	
10:40	Hydrogen strategies in the Southern and Eastern Mediterranean Countries Maged Mahmoud Technical Director of Regional Center for Renewable Energy and Energy Efficiency (RCREEE)	
11:00	Coffee break	
	Room Teatro	Room Donna Lucia
	EFC - Hydrogen, a universal fitting for a clean future	ICE204 - Combustion in Hydrogen Fueled Engines Chairpersons: Fabrice Foucher & Gilles Bruneaux
11:20	CH2 JU Initiatives and future perspectives for R&D on H2 in Europe Mirela Atanasiu Head of Unit of Operations and Communication and Director ad interim Clean Hydrogen Partnership	Experimental Combustion Analysis in a Gasoline Baseline Hydrogen-Fueled Internal Combustion Engine at Ultra-Lean Conditions 2023-24-0073 Caio Ramalho Leite, Mathieu Laignel, Pierre Brequigny, Fabrice Foucher , Université d'Orléans; Jacques Borée , ISAE-ENSMA (Poitiers)
11:40	Green Hydrogen: mutual benefit of sustainable development for Europe and Africa Aristide Fausto Massardo Coordinator Horizon Europe project "JUST-GREEN AFRH2ICA", Chairholder UNESCO Chair on Innovative Sustainable Clean Energy, Università di Genova	Assessment of Dilution Options on a Hydrogen Internal Combustion Engine 2023-24-0066 Loic Rouleau, Ludovic Nowak, Florence Duffour, Bruno Walter , IFPEN
12:00	Implementing the hydrogen transition in Europe: status and objectives of the research sector Luigi Crema President of Hydrogen Europe Research	High Performance and Near Zero Emissions 2-Stroke H2 Engine 2023-24-0068 Stefano Caprioli, Antonello Volza, Enrico Mattarelli, Carlo Alberto Rinaldini , Università di Modena e Reggio Emilia
12:20		ICE302 - Alternative and Advanced Fuels Chairpersons: Stefania Esposito & Sebastian Verhelst
12:40	Round table "Hydrogen in the Mediterranean" Moderator: Stephen McPhail, KIWA	From Waste to Fuel: Catalyst Synthesis and Combustion Assessment of Pyrolyzed Waste Engine Oil for Diesel Engine Applications Oral Only 23ICE-0404 Karim Khiari , Ecole Militaire Polytechnique
13:00		Sustainability of Future Shipping Fuels: Well-to-Wake Environmental and Techno-Economic Analysis of Ammonia and Methanol 2023-24-0093 Shashwat Tripathi, Antonio Garcia , Universitat Politècnica de Valencia; Inna Gorbatenko, Mani Sarathy , King Abdullah University of Science & Technology
13:20	Closing Remarks	Electrofuel Concept of Diesel and Oxygenate Fuels Reduces Engine-Out Emissions 2023-24-0090 Paivi Aakko-Saksa, Anssi Järvinen, Mikko Karppanen, Paivi Koponen, Pekka Piimäkorpi, Juha Lehtonen , VTT Technical Research Center of Finland; Sami Harni, Minna Aurela, Hilikka Timonen , Finnish Meteorological Institute; Petteri Marjanen, Lassi Markkula, Topi Rönkkö, Jussi Hoivala , Tampere University
13:40		Experimental Investigation of Glycerol Derivatives as Low-Concentration Additives for Diesel Fuel 2023-24-0095 André L. Olson, Nika Alemahdi, Martin Tunér, Sebastian Verhelst , Lund University
13:40	Lunch break	

Wednesday, 13th September

	Room Capri	Room Rotonda
	ICE104 - Engine Management and Control Chairpersons: Daniela Misul & Luciano Rolando	ICE201 - Combustion in Spark Ignition Engines: Basic, alternative fuels & Abnormal Combustion Chairpersons: Simona S. Merola & Christine M. Roussele
11:20	MEMS Application to Monitor the In-Cylinder Pressure of a Marine Engine 2023-24-0023 Ezio Mancaruso, Luigi De Simio, Sabato Iannaccone, Luca Marchitto, Bianca Maria Vaglio, STEMS-CNR; Luca Milano, Maria Cristina Cameretti, Università Federico II di Napoli	Correlation of Oil Originating Particle Emissions and Knock in a PFI HD SI Engine Fueled with Methanol 2023-24-0036 Filip Ainouz, Ludvig Adlercreutz, Andreas Cronhjort, KTH Royal Institute of Technology; Ola Stenlaas, Scania CV AB
11:40	Experimental Investigation of Ion Formation for Auto-Ignition Combustion in a High-Temperature and High-Pressure Combustion Vessel 2023-24-0029 Dominik Golc, Heinz Pitsch, Joachim Beeckmann, RWTH Aachen University; Stefania Esposito, University of Bath	Investigation into Various Strategies to Achieve Stable Ammonia Combustion in a Spark-Ignition Engine 2023-24-0040 Kalim Uddeen, Fahad Almatrafi, James Turner, King Abdullah University of Science & Technology; Hao Shi, Cardiff University; Qinglong Tang, Tianjin University; Jamie Parnell, Mark Peckham, Cambustion Ltd
12:00	Performance Assessment of a Model-Based Combustion Control System to Decrease the Brake Specific Fuel Consumption 2023-24-0027 Fenil Panalal Shethia, Jacopo Mecagni, Alessandro Brusa, Nicolo Cavina, Enrico Corti, University of Bologna	Comparison of the Performance and Operation Limits of an S.I. Engine Fueled with Neat Ammonia and Hydrogen-Ammonia Blends 2023-24-0042 Gabriele D'Antuono, Davide Lanni, Enzo Galloni, Gustavo Fontana, DICEM, University of Cassino
12:20	ICE104 - Engine Management and Control Chairman Daniela Misul & Luciano Rolando	ICE202 - Combustion in CI Engines: Basic & alternative fuel Chairman: Antonio Garcia
	An MPC-Based Strategy for Managing Energy in Hybrid Powertrains of Fast Boats 2023-24-0025 Ciro Tordela, Enrico Fornaro, Università degli Studi di Napoli	Optical Diagnostic Study on Improving Performance and Emission in Heavy-Duty Diesel Engines Using a Wave-Shaped Piston Bowl Geometry and Post Injection Strategies 2023-24-0048 Miaoxin Gong, Saeed Derafshzan, Mattias Richter, Oivind Andersson, Marcus Lundgren, Lund University; Stina Hemdal, Jan Eismark, Volvo Group Trucks Technology
12:40	An Energy Management Strategy for Aeronautical Hybrid Propulsion Systems Based on an MPC Supervisor 2023-24-0026 Enrico Fornaro, Ciro Tordela, Università degli Studi di Napoli	Experimental Investigation on a DI Diesel Engine Fuelled with Diesel-Like Fuel Obtained by Waste Lubricant Oil Pyrolysis 2023-24-0050 Lyes Tarabet, Ecole Militaire Polytechnique
13:00	Energy Management System of Fuel Cell Electric Vehicles Based on Stochastic Model Predictive Control and Markov Chains 2023-24-0024 Vincenzo Alfieri, Giulio Binetti, Romualdo Ruotolo, Punch Hydrocells; Edoardo Gandino, Punch Softronix	Investigation of the Ducted Fuel Injection concept applied to a 8-hole nozzle in a medium duty optical engine Oral Only 23ICE-0313 Antonio Garcia, Carlos Micó, Usama Bin-Khalid, Felipe Lewiski, Universitat Politècnica de Valencia; Francesco Pesce, Alberto Vassallo, Giacomo Belgiorno, Francesco Accurso, Punch Torino SpA
13:20	Real Time Modelling of Automotive Electric Drives for Hardware-in-the-Loop Applications 2023-24-0028 Paolo Poletto, Stellantis; Andrea Angiolini, Giulio Boccardo, Eduardo Graziano, Powertech Engineering SRL; Silvio Vaschetto, Politecnico di Torino; Roberto Demelas, Stellantis	Experimental investigation on the effect of the physicochemical properties of biodiesel on the internal combustion engine Oral Only 23ICE-0396 KADI Mohamed EL Amine, Ecole Militaire Polytechnique
13:40	Lunch break	

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Wednesday, 13th September

	Room Teatro	Room Donna Lucia
	ICE204 - Combustion in Hydrogen Fueled Engines Chairpersons: Fabrice Foucher & Gilles Bruneaux	ICE605 - Battery and Energy Storage Systems for Electric Mobility Chairpersons: Giorgio Rizzoni & Luigi Sequino
14:30	Numerical Modeling of Hydrogen Combustion Using Preferential Species Diffusion, Detailed Chemistry and Adaptive Mesh Refinement in Internal Combustion Engines 2023-24-0062 Josep Gomez-Soriano, Miguel Olcina-Girona, Ricardo Novella, Universitat Politècnica de Valencia; Pradeep Sapkota, Sameera Wijeyakulasuriya, Matteo D'Elia, Daniel Probst, Veeraraghavan Viswanathan, Convergent Science GmbH	Second-Life of Electric Vehicle Batteries from a Circular Economy Perspective: A Review and Future Direction 2023-24-0151 Cristina De Luca, Antonio Forcina, Parthenope University of Naples; Luca Silvestri, Niccolò Cusano University; Cecilia Silvestri, University of Tuscia; Gino Bella, University of Rome
14:50	Thermodynamics of Lean Hydrogen Combustion by Virtual Investigations on a Single-Cylinder Engine with Port Fuel Injection and Pre-Chamber Ignition 2023-24-0063 Thomas Gal, Antonino Vacca, Marco Chiodi, FKFS; Robin Schmelcher, Andre Kulzer, IFS, University Stuttgart; Sebastian Bucherer, Paul Rothe, Florian Sobek, Theo Gottwald, Ivica Kraljevic, Fraunhofer ICT	Optimized Control Strategy for Inductor-based Cell Equalizers 2023-24-0166 Francesco Porpora, Emanuele Di Fazio, Mauro Di Monaco, Giuseppe Tomasso, University of Cassino and Southern Lazio; Matilde D'Arpino, The Ohio State University
15:10	CFD Analysis of the Injection Strategy of a Dual Fuel Compression Ignition Engine Supplied with Hydrogen 2023-24-0064 Roberta De Robbio, Maria Cristina Cameretti, Marco Palomba, Raffaele Tuccillo, Università di Napoli Federico II; Ezio Mancaruso, STEMS-CNR	LCA and LCC of a Li-ion Battery Pack for Automotive Application 2023-24-0170 Natalia Di Vittorio, Edwin Tam, University of Windsor; Antonella Accardo, Ezio Spessa, Politecnico di Torino; Lucio Viscido, CRF SCpA
15:30	Numerical Analysis of Hydrogen Injection and Mixing in Wankel Rotary Engines 2023-24-0069 Kevin Moreno Cabezas, Giovanni Vorraro, Xinlei Liu, Rafael Menaca, Hong G. Im, James W.G. Turner, King Abdullah University of Science & Technology	Improving the Feasibility of Electrified Heavy-Duty Truck Fleets with Dynamic Wireless Power Transfer 2023-24-0161 Trentalessandro Costantino, Federico Miretti, Ezio Spessa, Politecnico di Torino
15:50	Coffee break	
	ICE605 - Battery and Energy Storage Systems for Electric Mobility Chairpersons: Matilde D'Arpino & Francesco Porpora	ICE609 - Smart Energy Systems Chairpersons: Panayotis Dimopoulos Eggenschwiler
16:20	Co-Simulation Framework for Electro-Thermal Modeling of Lithium-Ion Cells for Automotive Applications 2023-24-0163 Faissal El Idrissi, Prashanth Ramesh, Center For Automotive Research; Matilde D'Arpino, Marcello Canova, The Ohio State University	Zero Emission Hydrogen Internal Combustion Engine for a 5 kW Mobile Power Generator: Conversion Strategy for Carburetted SI Engines 2023-24-0183 Rik Joël Bättig, ETH Zürich; Trevor Jasper, CMB.TECH; Yannis Hardalupas, Alexander Taylor, Imperial College London; Panayotis Dimopoulos Eggenschwiler, EMPA
16:40	Numerical Modelling and Experimental Validation of the Thermal Behavior of Li-ion Batteries for EVs Applications 2023-24-0153 Teresa Castiglione, Diego Perrone, Daria La Gamba, Sergio Bova, University of Calabria; Luigi Sequino, Bianca Maria Vaglieco, STEMS-CNR	Is Banning Fossil-Fueled Internal Combustion Engines the First Step in a Realistic Transition to a 100% RES Share? Oral Only 23ICE-0500 Piero Danieli, Massimo Masi, Andrea Lazzaretto, University of Padova
17:00	Model-Based Energy Consumption Optimization of a Twin Battery Concept Combining Liquid and Solid-State Electrolyte Cells 2023-24-0154 Alexander Fandakov, Paul Tournalias, Emre Özkan, Ronny Kurt Mehnert, Marc Sens, IAV GmbH; Alexander Herzog, IAV GmbH, Munich University App. Sc. HM	ICE606 Powertrain Adaptation for Connectivity and Automation Chairperson: Giorgio Rizzoni
		A Modified Enhanced Driver Model for Heavy-Duty Vehicles with Safe Deceleration 2023-24-0171 Ankur Shiledar, Manfredi Villani, Giorgio Rizzoni, The Ohio State University; Ennio Andrea Adinolfi, Cesare Pianese, Alfonso Pandolfi, University of Salerno; Antonio Paolino, MinervaS s.r.l.
17:20	Thermal Performance of a 48V Prismatic Lithium-Ion Battery Pack Under WLTC Driving Cycles with a Liquid Cooling System 2023-24-0152 Antonio Paolo Carlucci, Hossein Darvish, Domenico Laforgia, University of Salento	A Bi-Level Optimization Approach for Eco-Driving of Heavy-Duty Vehicles 2023-24-0172 Jiamin Zhu, Pierre Michel, Daniele Zonetti, Antonio Sciarretta, IFPEN
20:00	Gala dinner	

Wednesday, 13th September

	Room Capri	Room Rotonda
	ICE301 - Fuel Injection and Sprays Chairpersons: Michele Battistoni & José Vicente Pastor	ICE608 - Physical, virtual and mixed test methods for efficient powertrain concepts Chairpersons: Danilo Engelmann & Benedikt Reick
14:30	Applications of an Advanced Multiple Injection Calibration Strategy to Address Future Emission Legislation Challenges 2023-24-0081 Felix Fellner, Christoph Kraus, Martin Härtl, Malte Jaensch , Technical University of Munich; Akiyasu Miyamoto , Hitachi Europe GmbH; Christian Joerg , Hitachi Astemo Europe GmbH	HIL based Real-Time Co-Simulation for BEV Fault Injection Testing 2023-24-0181 Anja Konzept, Benedikt Reick , Ravensburg-Weingarten University of Applied Sciences; Igor Pintaric, Caio Osório , Typhoon HIL
14:50	Development of a Laboratory Unit to Study Internal Injector Deposits Formation 2023-24-0078 Mayte Pach, Henrik Hittig, Tobias Scholle , Scania CV AB; Henrik Kusar, Klas Engvall , KTH Royal Institute of Technology	Trailer Electrification – A HIL Approach for MPC Powertrain Control to Ensure Driver Safety in Micromobility 2023-24-0180 Marius Miller, Markus Pfeil , Ravensburg-Weingarten University; Ralph Kennel , Technical University of Munich
15:10	SprayLet: One-Dimensional Interactive Cross-Sectionally Averaged Spray Model 2023-24-0081 Vinaykumar Reddy Kurapati, Fabian Mauss , Brandenburg University of Technology; Borg Anders , LOGE AB; Lars Seidel , Loge Deutschland GmbH	Holistic Process-Oriented Approach to Test Bench Control for Mobile Machines 2023-24-0177 Stefan Herr, Simon Becker , Karlsruhe Institute of Technology
15:30	Exploiting the potential of Large Eddy Simulation (LES) for Ducted Fuel Injection investigation in non-reacting conditions Oral Only 23ICE-0419 Federico Millo, Cristiano Segatori, Andrea Piano, Benedetta Peiretti Paradisi , Politecnico di Torino; Andrea Bianco , Powertech Engineering SRL	Validation Configurations for the Continuous Validation of Rotors for Electric Traction Motors Oral Only 23ICE-0370 Adrian Braumandl, Johannes Kern, Katharina Bause, Sascha Ott , Karlsruhe Institute of Technology
15:50	Coffee break	
	ICE302 - Alternative and Advanced Fuels Chairpersons: Stefania Esposito & Sebastian Verhelst	ICE607 - AI and Machine Learning Chairpersons: Felix Leach & William Northrop
16:20	Efficiency Optimized Engine Operation with CO2 Neutral Fuels through Thermodynamic Loss Calculation and Model-Based Fuel Detection 2023-24-0096 Philipp Demel, Friedemar Knost, Alexander Obée, Christian Beidl , TU Darmstadt - VKM	Battery Electric Vehicle Control Strategy for String Stability based on Deep Reinforcement Learning in V2V Driving 2023-24-0173 Angelo Borneo, Federico Miretti, Matteo Acquarone, Daniela Misul , Politecnico di Torino
16:40	Automated Kinetic Mechanism Evaluation for e-Fuels Using SciExpeM: The Case of Oxymethylene Ethers 2023-24-0092 Timoteo Dinelli, Luna Pratali Maffei, Alessandro Pegurri, Amedeo Puri, Alessandro Stagni, Tiziano Faravelli , Politecnico di Milano	Real-Time Prediction of Fuel Consumption via Recurrent Neural Network (RNN) for Monitoring, Route Planning Optimization and CO2 Reduction of Heavy-Duty Vehicles 2023-24-0175 Alfonso Pandolfi, Pierpaolo Polverino, Cesare Pianese , Università degli Studi di Salerno; Ennio Andrea Adinolfi , MinervaS/Università degli Studi di Salerno
17:00	1-D Numerical Model of a Spark Ignition Engine Fueled with Methanol for Off-Grid Charging Stations 2023-24-0098 Diego Perrone, Teresa Castiglione, Luigi Falbo, Sergio Bova , University of Calabria; Clino D'Epiro , NGV Powertrain Srl	Initial Development of a Physics-Aware Machine Learning Framework for Soot Mass Prediction in Gasoline Direct Injection Engines 2023-24-0174 Bharat Jayaprakash, Brady Wilmer, William F. Northrop , Univ. of Minnesota-Twin Cities
17:20		Physics-guided machine learning modeling of NOx emissions in diesel engines Oral Only 23ICE-0291 Abdullah Bajwa, Felix Leach , University of Oxford; Xiaohang Fang , University of Calgary; Martin Davy, Fengyu Zhong, Gongyi Zou , University of Oxford
20:00	Gala dinner	

Thursday, 14th September

	Room Teatro	Room Capri
	ICE101 - 0-D and 1-D Modeling and Numerics Chairperson: Federico Millo	EFC - Road Transport Chairperson: Alessandro D'Adamo
9:00	Numerical Investigation of the Ignition Delay and Laminar Flame Speed for Pilot-Ignited Dual Fuel Engine Operation with Hydrogen or Methanol 2023-24-0011 Somayeh Parsa, Sebastian Verhelst , Ghent University	Electricity and transportation: batteries or hydrogen? ...Or both Giorgio Rizzoni , The Ohio State University
09:20	Turbocharging Automotive Engines: A Decision-Making Approach for Optimal Turbocharger Selection 2023-24-0003 Mohamed Amine El Hameur, Mahfoudh Cerdoun, Lyes Tarabet , Ecole Militaire Polytechnique; Alfredo Gimelli , University of Naples Federico II; Giovanni Ferrara , University of Florence	
09:40	Comparison of Modern Powertrains Using an Energy Model Based on Well-to-Miles Analysis 2023-24-0005 Stefania Falfari, Valerio Mariani, Gian Marco Bianchi, Giulio Cazzoli , University of Bologna	Understanding Charge, Mass, and Heat Transfer in Fuel Cells for Transport Applications – Insights from the CAMELOT Project Patrick Fortin , SINTEF
10:00	Development and validation of a phenomenological model for hydrogen fuelled PFI internal combustion engines Oral Only 23ICE-0330 Marco Piras, Vincenzo De Bellis, Enrica Malfi , University of Naples Federico II; Josep Gomez-Soriano, Miguel Olcina-Girona , Universitat Politècnica de Valencia	A comprehensive Experimental investigation on the fuel cell powertrain of a yard tractor for sustainable port handling operations Andrea Altomonte MSc , University of Naples "Parthenope"
10:20	Assessment of a quasi-dimensional combustion model applied to a spark-ignition premixed oxy-fuel internal combustion engine Oral Only 23ICE-0449 Massimiliano De Felice, Vincenzo De Bellis , Univ of Naples Federico II; Rodrigo Raggi, Jaime Martin , Universitat Politècnica de València	Development of a procedure for mixture formation analysis for H2 DI ICES Giuseppe Anaclerio , Politecnico Bari
10:40	Coffee break	
	ICENA101 - 0-D and 1-D Modeling and Numerics Chairperson: Lorenzo Sforza	ICE204 - Combustion in Hydrogen Fueled Engines Chairpersons: Fabrice Foucher & Gilles Bruneaux
11:10	Experimental and numerical analysis of diesel spray jets for ultra-lean combustion Oral Only 23ICE-0545 Alessia Gambardella, Vincenzo De Bellis , University. of Naples Federico II	Optical Diagnostics to Study Hydrogen/Diesel Combustion with EGR in a Single Cylinder Research Engine 2023-24-0070 Ezio Mancaruso, Salvatore Rossetti, Bianca Maria Vaglieco , STEMS-CNR; Roberta De Robbio , Università Federico II di Napoli; Fadila Maroteaux , Université de Versailles St Quentin En Yveline
11:30	Development of a 1D Model to Predict the Conversion Efficiency of a Three-Way Catalyst for a High-Performance Spark Ignition Engine Oral Only 23ICE-0528 Giuseppe Castellano, Luciano Rolando, Federico Millo , Politecnico di Torino; Fabrizio Gullino, Roberto Tonelli , Ferrari Spa	Overview of Hydrogen Combustion using Westport Fuel Systems' HPDI™ Technology Oral Only 23ICE-0556 Sandeep Munshi , WFS Canada Inc.; David K. Mumford, Fabien Redon , Westport Fuel Systems
11:50	Development of a comprehensive model to predict combustion process, knock likelihood and cycle-by-cycle variability in a hydrogen-fueled internal combustion engine Oral Only 23ICE-0546 Federico Millo, Andrea Piano, Gianpaolo Quattrone , Politecnico di Torino; Francesco Pesce, Alberto Vassallo , Punch Torino SpA; Nicola Sacco , PUNCH Hydrocells	Efficiency-Biased Design of an H2-Fueled Internal Combustion Engine for Heavy and Challenging Applications 2023-24-0075 Thomas Koerfer , FEV Group GmbH
12:10	Refinement of a phenomenological model for unburned hydrocarbons emission in ultra-lean engines Oral Only 23ICE-0567 Massimiliano De Felice, Enrica Malfi, Vincenzo De Bellis , University of Naples Federico II; Alfredo Lanotte, Gennaro Caputo , Wartsila Italia Spa; Alberto Cafari, Jari Hyvonen , Wartsila Finland Oy	Challenges and Opportunities in developing a Hydrogen High Specific Power SCE in the roadmap towards zero net GHG Oral Only 23ICE-0278 Massimo Medda , Ferrari Spa
12:30		Conversion of a Small Size Passenger Car to Hydrogen Fueling: Focus on Vehicle Dynamics and ECU Remapping Requirements 2023-24-0065 Santiago Martinez, Pedro Curto , Universidad de la República; Simona Merola, Bianca Maria Vaglieco, Adrian Irimescu , STEMS-CNR
12:50	Closing Remarks Giorgio Rizzoni, The Ohio State University (USA) & Bianca Maria Vaglieco, STEMS-CNR (Italy)	

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