ICE2017

13th International Conference on Engines & Vehicles

September 10 - 14, 2017 @ Capri, Napoli

Preliminary Program

25 July 2017

Monday, 11

start	stop	Hotel Quisisana			
8:30	17:30	**Registration**			
9:20	9:40	***Opening Ceremony*** ***Welcome Cesare Pianese*** *SAENA President* ***& Vittorio Rocco*** *Istituto Motori Director* ***Robert M. Wagner*** *&* ***Bianca Maria Vaglieco*** *Conference Chairs*			
9:40	10:10	**Title to be defined -Doug Patton** *SAE International President (USA)* **/ Chairman:**			
10:10	10:40	**Carbon Neutral Fuels for efficient ICE: an alternative towards Green Mobility - Dario Sacco** C.R.F. (Italy) **/ Chairman:**			
10:40	11:10	**Coffee break**			
		Room Teatro	***Room Donna Lucia***	***Room Capri***	***Room Rotonda***
		Combustion and Flow Diagnostics (ICE103) **Chairman:**	**CI & SI Engines Technology (ICE501)** **Chairman:**	**LTC/HCCI/PCCI/RCCI (ICE 203/1)** **Chairman:**	**Emissions Control Modeling (ICE402)** **Chairman:**
11:10	11:30	In-cylinder Temperature Measurements Using Laser Induced Grating Spectroscopy and Two-Colour PLIF **(2017-24-0045)** **Blane Scott, Christopher Willman, Ben Williams, Paul Ewart, Richard Stone,** University of Oxford; **David Richardson,** Jaguar Land Rover Limited.	Diesel Engine Technologies Evolution for Future Challenges **(2017-24-0179)** **Marco Tonetti, Giorgio Rustici, Massimo Buscema,**Centro Ricerche Fiat S.C.p.A.; **Luca Ferraris,** FCA Italy S.p.A.	Particulates Size Distribution of Reactivity Controlled Compression Ignition (RCCI) on a Medium-Duty Engine Fueled with Diesel and Gasoline at Different Engine Speeds **(2017-24-0085)** **Jesus Benajes, Antonio Garcia, Javier Monsalve-Serrano, Vicente Boronat,** Universitat Politecnica de Valencia.	Reduction of Transient Soot Peaks by Optimized Injection Profile - A Case Study **(2017-24-0132)** **Martin Großbichler, Zhen Zhang, Philipp Polterauer, Harald Waschl,** Johannes Kepler University Linz.
11:30	11:50	Soot Characterization of Diesel/Gasoline Blends Injected through a Single Injection System in CI engines **(2017-24-0048)** **Jose V. Pastor, Jose M. Garcia-Oliver, Antonio Garcia, Mattia Pinotti,** Universitat Politecnica de Valencia.	Development of an Innovative Combustion Process: Spark-Assisted Compression Ignition **(2017-24-0147)** **Marco Chiodi, Andreas Kaechele, FKFS; Michael Bargende,**FKFS/IVK, University Stuttgart; **Donatus Wichelhaus, Christian Poetsch,**Volkswagen Motorsport GmbH.	Blending Behavior of Ethanol with PRF 84 and FACE A Gasoline in HCCI Combustion Mmode **(2017-24-0082)** **Muhammad Umer Waqas, Nour Atef, Eshan Singh, Jean-Baptiste MASURIER, Mani Sarathy, Bengt Johansson,**King Abdullah Univ. of Science & Tech.	Rig Test of Diesel Combustion Chamber with Piston Coated by Optically Simulated Semitransparent PSZ-Ceramic **(2017-24-0129)** **Vladimir Merzlikin, Svetlana Parshina, Moscow Polytechnic University; Victoria Garnova, Andrey Bystrov, Sergey Khudyakov,** Plekhanov Russian University of Economic; **Alexander Makarov,** Peoples' Friendship University of Russia.
11:50	12:10	Experimental Investigation of an In-Cylinder Sampling Technique for the Evaluation of the Residual Gas Fraction **(2017-24-0042)** **Ali Jannoun, Xavier Tauzia, Pascal Chesse, Alain Maiboom,**Ecole Centrale De Nantes.	Resonance Charging Applied to a Turbo Charged Gasoline Engine for Transient Behavior Enhancement at Low Engine Speed **(2017-24-0146)** **Vincent Raimbault, Jerome Migaud,** MANN+HUMMEL France; **David Chalet, Quentin Montaigne,**Ecole Centrale de Nantes; **Michael Bargende,** IVK Universität Stuttgart; **Emmanuel Revol**, PSA Group.	A Late Injection Combustion Strategy Using a Novel Ramped Combustion System **(2017-24-0090)** **Robert E. Morgan, Morgan Heikal, Emily Pike-Wilson,**University Of Brighton.	Improvement of the Control-Oriented Model for the Engine-Out NOx Estimation Based on In-Cylinder Pressure Measurement **(2017-24-0130)** **Antonio Paolo Carlucci, Marco Benegiamo, Daniela Ingrosso,**University of Salento; **Sergio Camporeale,** Politecnico di Bari.
12:10	12:30	Generation of Turbulence in a RCEM Towards Engine Relevant Conditions for Premixed Combustion Based on CFD and PIV Investigations **(2017-24-0043)** **Thomas Kammermann, Jann Koch, Patrik Soltic,** Empa; **Konstantinos Boulouchos**ETH Zurich; **Yuri M. Wright,** ETH Zurich/Combustion+FlowSolutions Gmbh.	Achieving the Max Potential From a Variable Compression Ratio and Early Intake Valve Closure Strategy by Combination with a Long Stroke Engine Layout **(2017-24-0155)** **Marc Sens, Michael Guenther, Matthias Hunger, Jan Mueller, Sascha Nicklitzsch, Ulrich Walther,** IAV GmbH; **Steffen Zwahr,** Westsaechsische Hochschule Zwickau.	Effect of Aromatics on Combustion Stratification and Particulate Emissions from Low Octane Gasoline Fuels in PPC and HCCI Mode **(2017-24-0086)** **Yanzhao An, S. Vedharaj, R. Vallinayagam, Alaaeldin Dawood, Jean-Baptiste MASURIER, Bengt Johansson,**King Abdullah Univ of Science & Tech; **Mohammad Izadi Najafabadi, Bart Somers,** Technische Universiteit Eindhoven; **Junseok Chang,** Saudi Aramco.	Dynamic Validation of an Engine Out Nox Estimation Model Based on In-Cylinder Pressure Measurements **(2017-24-0131)** **Sergio Mario Camporeale, Patrizia D.Ciliberti,**Politecnico di Bari - DMMM; **Antonio Carlucci, Daniela Ingrosso,**Università Del Salento.
12:30	12:50	Optical Techniques That Can Be Applied to Investigate GDI Engine Combustion **(2017-24-0046)** **Richard Stone, Ben Williams, Paul Ewart,** University of Oxford.	Redesign of a Radial Turbine Variable Stator Geometry With Optimized Free Space Parameter for Improved Efficiency **(2017-24-0154)** **Ruud Eichhorn, Michael Boot, David Smeulders, Michel Cuijpers,** Eindhoven University of Technology.	Compression Ignition of Light Naphtha and Its Multicomponent Surrogate under Partially Premixed Conditions **(2017-24-0078)** **R. Vallinayagam, S. Vedharaj, Yanzhao An, Alaaeldin Dawood, Mani Sarathy, Bengt Johansson**, King Abdullah Univ of Science & Tech; **Mohammad Izadi Najafabadi, Bart Somers,** Technische Universiteit Eindhoven; **Junseok Chang,** Saudi Aramco.	Evaluating Performance of Uncoated GPF in Real World Driving Using Experimental Results and CFD Modelling **(2017-24-0128)** **Lauretta Rubino,** GM Europe; **Jan Piotr Oles, Antonino La Rocca,**University of Nottingham.
12:50	13:10	Development of a Research-Oriented Cylinder Head with Modular Injector Mounting and Access for Multiple In-Cylinder Diagnostics **(2017-24-0044)** **Jeremy Rochussen, Jeff Son, Jeff Yeo, Mahdiar Khosravi, Patrick Kirchen,** University of British Columbia; **Gordon McTaggart-Cowan,** Westport Fuel Systems Inc.	Technology Comparison for Spark Ignition Engines of New Generation **(2017-24-0151)** **Matteo De Cesare, Luigi Paiano,**MAGNETI MARELLI SpA - Div. Powertrain; **Nicolo Cavina,** University of Bologna.	Experimental investigation of in-cylinder heat transfer during PPC combustion **(Oral Only)** **Stijn Broekaert, Thomas De Cuyper, Ghent University; Kam Chana,** Univ of Oxford; **Martin Tuner,** Lund University; **Michel De Paepe, Sebastian Verhelst,** Ghent University.	New modelling process to estimate real-world emission **(Oral Only)** **Roberto Bruno Bossio,**Ricardo (UK).
13:10	14:00	**Lunch break**			

Monday, 11

14:00	14:30	**Evolution of Engine Lubricants Technologies Enabling Improved Systems' Efficiency and Extended Durability - Ewa Bardas**, Technical Fellow at Lubrizol (USA) / **Chairman:**			
14:30	15:10	**Coffee break**			
		Room Teatro	***Room Donna Lucia***	***Room Capri***	***Room Rotonda***
		0-D and 1-D Modeling and Numerics (ICE 101/1) **Chairman:**	**Engine Boosting Systems (ICE504)** **Chairman:**	**Alternative and Advanced Fuels (ICE303)** **Chairman:**	**Particle Emissions from Combustion Sources (ICE404)** **Chairman:**
15:10	**15:30**	Two-Stage Ignition Occurrence in the End Gas and Modeling Its Influence on Engine Knock **(2017-24-0001)** **Alexander Fandakov, Michael Bargende,** IVK, University of Stuttgart; **Michael Grill,** FKFS; **Andre Casal Kulzer,** Porsche AG.	Potential of Electric Energy Recuperation by Means of the Turbocharger on a Downsized Gasoline Engine **(2017-24-0162)** **Harald Stoffels, Jens Dunstheimer, Christian Hofmann,** Ford Werke GmbH.	Assessment of the Full Thermodynamic Potential of C8-Oxygenates for Clean Diesel Combustion **(2017-24-0118)** **Marius Zubel, Benedikt Heuser,** Institute for Combustion Engines; **Stefan Pischinger,** RWTH Aachen University.	Combustion Characteristics and Particulate Matter Number Size Study of Ethanol and Diesel Reactivity Controlled Compression Ignition Engine **(2017-24-0143)** **Sathaporn Chuepeng,** Kasetsart University; **Kampanart Theinnoi,** KMUTNB; **Manida Tongroon,** National Metal and Materials Tech Center.
15:30	**15:50**	On the Entrainment Velocity and Characteristic Length Scales Used for Quasi-Dimensional Turbulent Combustion Modeling in Spark Ignition Engines **(2017-24-0002)** **Adrian Irimescu, Silvana Di Iorio, Simona Merola, Paolo Sementa, Bianca Maria Vaglieco,** Istituto Motori CNR.	Conceptual Design of a Variable Geometry, Axial Flow Turbocharger Turbine **(2017-24-0163)** **Apostolos Pesiridis,** Brunel University London; **Angelo Saccomanno, Raffaele Tuccillo,** University of Naples Federico II; **Alfredo Capobianco,** Accenture Spa.	Preliminary Investigation of a BioBased Low Sulfur Heavy Fuel Oil **(2017-24-0114)** **Michel Cuijpers, Michael Golombok, Hylke Van Avendonk, Michael Boot,** Eindhoven University of Technology.	Structure-Sensitive Reactions Over Ceria-Based Nanocatalysts: The Catalytic Oxidation of Soot and Carbon Monoxide **(2017-24-0145)** **Marco Piumetti, Debora Fino, Nunzio Russo, Samir Bensaid, Melodj Dosa,** Politecnico di Torino.
15:50	**16:10**	Assessment of the Approximation Formula for the Calculation of Methane/Air Laminar Burning Velocities Used in Engine Combustion Models **(2017-24-0007)** **Joachim Beeckmann, Raik Hesse, Felix Bejot, Nan Xu, Heinz Pitsch,** RWTH Aachen University.	Evaluation of Different Turbocharger Configurations for a Heavy-Duty Partially Premixed Combustion Engine **(2017-24-0164)** **Erik Svensson, Lianhao Yin, Per Tunestal, Marcus Thern, Martin Tuner,** Lund University.	Experimental Investigation on a DI Diesel Engine Using Waste Plastic Oil Blended with Oxygenated Fuels **(2017-24-0116)** **Ekarong Sukjit, Pansa Liplap, Somkiat Maithomklang, Weerachai Arjharn,** Suranaree University of Technology.	How Much Regeneration Events Influence Particle Emissions of DPF-Equipped Vehicles? **(2017-24-0144)** **Carlo Beatrice, Maria Antonietta Costagliola, Chiara Guido, Pierpaolo Napolitano, Maria Vittoria Prati,** Istituto Motori CNR.
16:10	**16:30**	A Methodology for Modelling the Cat-Heating Transient Phase in a Turbocharged Direct Injection Spark Ignition Engine **(2017-24-0010)** **Federico Millo, Luciano Rolando, Alessandro Zanelli,** Politecnico di Torino; **Francesco Pulvirenti, Matteo Cucchi, Vincenzo Rossi,** Ferrari S.p.A.	**Alternative Engine Architectures (ICE505)** **Chairman:** An Investigation Into the Porting of a Burt-McCollum Sleeve Valve and its Interaction With a Simple Variable Compression Ratio Mechanism **(2017-24-0168)** **James W.G. Turner, James P. Lewis Monsma,** University Of Bath.	Spray Combustion Analysis of Humins **(2017-24-0119)** **Jos Feijen, Niels Deen,** Eindhoven University of Technology; **Gerard Klink, Ed Jong,** Avantium Chemicals B.V.; **Andreas Schmid,** Winterthur Gas & Diesel Ltd.; **Michael Boot,** Progression Industry B.V.	Experimental Investigations on the Sources of Particulate Emission within a Natural Gas Spark-Ignition Engine **(2017-24-0141)** **Riccardo Amirante, Elia Distaso, Davide Pettinicchio, Paolo Tamburrano,** Politecnico di Bari; **Silvana Di Iorio, Paolo Sementa, Bianca Maria Vaglieco,** Istituto Motori CNR.
16:30	**16:50**	Extension and Validation of a 1D Model Applied to the Analysis of a Water Injected Turbocharged Spark Ignited Engine at High Loads and over a WLTP Driving Cycle **(2017-24-0014)** **Fabio Bozza, Vincenzo De Bellis, Luigi Teodosio,** Univeristy of Naples Federico II; **Pietro Giannattasio,** University of Udine; **Luca Marchitto,** Istituto Motori CNR.	Scavenge Ports Optimization of a 2-Stroke Opposed Piston Diesel Engine **(2017-24-0167)** **Enrico Mattarelli, Carlo Rinaldini, Tommaso Savioli, Giuseppe Cantore,** Universita di Modena e Reggio Emilia; **Alok Warey,** General Motors Global R & D; **Michael Potter, Venkatesh Gopalakrishnan, Sandro Balestrino,** General Motors LLC.	Experimental Investigation of Fuel Injection and Spark Timing for the Combustion of N-Butanol and Iso-Butanol and Their Blends With Gasoline in a Two-Cylinder SI Engine **(2017-24-0115)** **Martin Pechout,** Technical University of Liberec; **Jan Czerwinski, Martin Güdel,** Univ of Applied Sciences Biel-Bienne; **Michal Vojtisek-Lom,** Czech Technical University.	Comparison of Aircraft Emissions at Los Angeles International Airport (LAX) to Urban Vehicle Traffic Emissions Measured On-road of Major Freeways and assessment of its impact on air quality in Los Angeles **(Oral Only)** **Constantinos Sioutas,** University Southern California, USA.
16:50	**17:10**	Numerical Study of the Potential of a Variable Compression Ratio Concept Applied to a Downsized Turbocharged VVA Spark Ignition Engine **(2017-24-0015)** **Luigi Teodosio, Vincenzo De Bellis, Fabio Bozza, Daniela Tufano,** University of Naples.	The Recuperated Split Cycle Experimental Combustion Data from a Single Cylinder Test Rig **(2017-24-0169)** **Robert E. Morgan, Guangyu dong, Morgan Heikal, Christopher Ienartowicz,** University of Brighton; **Neville Jackson,** Ricardo plc; **Andrew Atkins,** Ricardo UK Ltd.	Numerical Analysis of a Spark-Ignition Engine Fueled by Ethanol-Gasoline and Butanol-Gasoline Blends: Setting the Optimum Spark Advance **(2017-24-0117)** **Fabio Scala, Enzo Galloni, Gustavo Fontana,** DICEM- University of Cassino.	
17:10	**17:30**	Wall Heat Transfer in a Multi-Link Extended Expansion SI-Engine **(2017-24-0016)** **Morris Langwiesner, Christian Krueger,** Sebastian Donath, Daimler AG; **Michael Bargende,** University of Stuttgart.	Evaluating the Effect of Intake Manifold Size on Lag Time in Single Cylinder Turbocharged Engines **(2017-24-0170)** **Michael R. Buchman, Amos Winter,** Massachusetts Institute of Technology.	Passenger vehicle tests with renewable diesel fuel from forest industry residues **(Oral Only)** **Ville Vauhkonen,** UPM-Kymmene Corp.; **Daniel Danielsson, Isaac Nilsson,** AVL MTC AB.	
17:30	**19:00**	**SAE-NA Naples Section meeting**			
20:30		**Informal dinner**			

Tuesday, 12

start	stop	Hotel Quisisana			
8:40	17:30	**Registration**			
9:30	10:00	**Pressure-Temperature Domain Analysis to Provide Insight into Autoignition Processes in SI Engines at High Operating Load - Jim Szybist (ORNL) / Chairman:**			
10:00	10:30	**Coffee break**			
		Room Teatro	***Room Donna Lucia***	***Room Capri***	***Room Rotonda***
		0-D and 1-D Modeling and Numerics (ICE 101/2) **Chairman:**	**Fuel Injection and Sprays: Experiments (ICE302)** **Chairman:**	**LTC/HCCI/PCCI/RCCI (ICE203/2)** **Chairman:**	**CI & SI Engines Technology (ICE501)** **Chairman:**
10:30	10:20	Experimental and Computational Investigation of a Quarter-Wave Resonator on a Large-Bore Marine Dual-Fuel Engine **(2017-24-0017)** **Emanuele Servetto, Andrea Bianco,** POWERTECH Engineering S.r.l.; **Gennaro Caputo, Giuseppe Lo Iacono,** Wärtsilä Italia S.p.a.	Development of Air-Assisted Urea Injection Systems for Medium Duty Trucks **(2017-24-0112)** **Guanyu Zheng,** WEICHAI POWER Emission Solutions.	Fuel Effect on Combustion Stratification in Partially Premixed Combustion **(2017-24-0089)** **S. Vedharaj, R. Vallinayagam, Yanzhao An, Alaaeldin Dawood,** King Abdullah Univ of Science & Tech; **Mohammad Izadi Najafabadi, Bart Somers,** Technische Universiteit Eindhoven; **Junseok Chang,** Saudi Aramco; **Bengt Johansson,** King Abdullah Univ of Science & Tech.	Evaluation of the Potential of Water Injection for Gasoline Engines **(2017-24-0149)** **Fabian Hoppe,** VKA, RWTH Aachen University; **Matthias Thewes, Joerg Seibel, Andreas Balazs, Johannes Scharf,** FEV Europe GmbH.
10:20	10:40	A Fully Physical Correlation for Low Pressure EGR Control Linearization **(2017-24-0011)** **Giulio Boccardo, Federico Millo, Andrea Piano,** Politecnico di Torino; **Luigi Arnone, Stefano Manelli, Cristian Capiluppi,** Kohler Engines.	Instantaneous Flow Rate Testing with Simultaneous Spray Visualization of an SCR Urea Injector at Elevated Fluid Temperatures **(2017-24-0109)** **Nic Van Vuuren,** Continental Automotive Systems US Inc; **Lucio Postrioti, Gabriele Brizi, Federico Picchiotti,** Universita degli Studi di Perugia.	Low RON Gasoline Calibration on a Multi-Cylinder Compression Ignition Engine to Fulfill the Euro 6d Regulation **(2017-24-0091)** **Hyun Woo Won,** Aramco Fuel Research Center; **Alexandre Bouet,** Saudi Aramco; **Joseph KERMANI, Florence Duffour,** IFP Energies Nouvelles.	Control of Microwave Plasma for Ignition Enhancement Using Microwave Discharge Igniter **(2017-24-0156)** **Minh Khoi Le, Srinivas Padala, Atsushi Nishiyama, Yuji Ikeda,** Imagineering Inc.
10:40	11:00	Physical Modeling of a Turbocharger Electric Waste-Gate Actuator for Control Purpose **(2017-24-0003)** **Andreas Sidorow,** BorgWarner Turbo Systems; **Vincent Berger, Ghita Elouazzani**, PSA Groupe.	Effect of Injector Nozzle Hole Geometry on Particulate Emissions in a Downsized Direct Injection Gasoline Engine **(2017-24-0111)** **Heechang Oh, JuHun Lee, Seungkook Han, Jungho Lee, In Keun Seo, Sung Jae Kim,** Hyundai Motor Company; **Chansoo Park, Choongsik Bae,** Korea Advanced Inst of Science & Tech	Effects of Low Temperature Combustion on Particle and Gaseous Emission of a Dual Fuel Light Duty Engine **(2017-24-0081)** **Luigi De Simio, Michele Gambino, Sabato Iannaccone,** Istituto Motori CNR	Ignition of Propane-Air Mixtures by Miniaturized Resonating Microwave Flat Panel Plasma-Igniter **(2017-24-0150)** **Srinivas Padala, Minh Khoi Le, Atsushi Nishiyama, Yuji Ikeda,** Imagineering Inc.
11:00	11:20	Experimental Study of Centrifugal Compressor Speed Lines Extrapolation for Automotive Turbochargers **(2017-24-0005)** **Guillaume Goumy, Pascal Chesse, Nicolas Perrot, Rémi Dubouil,** Ecole Centrale De Nantes.	Injection Rate Measurement of GDI Systems Operating Against Sub-Atmospheric and Pressurized Downstream Condition **(2017-24-0110)** **Lucio Postrioti, Giulio Caponeri,** Università degli Studi di Perugia; **Giacomo Buitoni,** Shot-to-Shot Engineering, Italy.	A Kinetic Modelling Study of Alcohols Operating Regimes in a HCCI Engine **(2017-24-0077)** **Matteo Pelucchi, Mattia Bissoli, Cristina Rizzo, Alessio Frassoldati, Tiziano Faravelli,** Politecnico di Milano; **Yingjia Zhang, Kieran Somers,** National University of Ireland Galway; **Henry Curran,** National University of Ireland Galway.	Extension of Dilution Limit in Propane-Air mixtures Using Microwave Discharge Igniter **(2017-24-0148)** **Srinivas Padala, Shashank Nagaraja, Yuji Ikeda, Minh Khoi Le,** Imagineering Inc.
11:20	11:40	Experimental Characterization and Modelling of Turbocharger Friction Losses **(2017-24-0013)** **Nicolas Perrot, Pascal Chesse, Rémi Dubouil, Guillaume Goumy,** Ecole Centrale De Nantes.	Experimental and Numerical Characterization of Diesel Injection in Single-Cylinder Research Engine with Rate Shaping Strategy **(2017-24-0113)** **Ezio Mancaruso, Luigi Sequino, Bianca Maria Vaglieco,** Istituto Motori CNR; **Maria Cristina Cameretti,** Univ of Napoli Federico II.	Combustion Indexes for Innovative Combustion Control **(2017-24-0079)** **Vittorio Ravaglioli, Fabrizio Ponti, Filippo Carra, Enrico Corti,** University of Bologna; **Matteo De Cesare, Federico Stola,** Magneti Marelli SpA - Powertrain.	Emission Spectroscopy Study of the Microwave Discharge Igniter in Ambient Air **(2017-24-0153)** **Sergey Shcherbanev, Alexandre De Martino, Andrey Khomenko, Svetlana Starikovskaia,** CNRS, Laboratory of Plasma Physics; **Srinivas Padala,** Yuji Ikeda, Imagineering Inc.
11:40	12:00	The Sensitivity of Transient Response Prediction of a Turbocharged Diesel Engine to Turbine Map Extrapolation **(2017-24-0019)** **Alexander Mason, Aaron W. Costall,** Imperial College London; **John R. McDonald,** Caterpillar Inc.	Transient Heat Transfer Characterization of a Gasoline Spray Impact Against Hot Surfaces: Experimental and Numerical Study **(2017-24-0107)** **Alessandro Montanaro, Luigi Allocca, Vittorio Rocco, Michela Costa,** Istituto Motori CNR; **Daniele Piazzullo,** Università di Roma "Tor Vergata".		Development of a High Performance NG Engine Embedding Direct Gas Injection and Variable Valve Actuation **(2017-24-0152)** **Mirko Baratta, Daniela Misul, Jiajie Xu,** Politecnico di Torino; **Alois Fuerhapter, Rene Heindl,** AVL LIST GmbH; **Cesare Peletto,** Centro Ricerche Fiat; **Jean Preuhs, Patrick Salemi,** Delphi R & D Labs.
12:00	12:20	A Pre-Design Model to Estimate the Effect of Variable Inlet Guide Vanes on the Performance Map of a Centrifugal Compressor for Automotive Applications **(2017-24-0020)** **Michele Becciani, Alessandro Bianchini, Matteo Checcucci, Andrea Arnone, Giovanni Ferrara,** University of Florence; **Lorenzo Ferrari,** University of Pisa; **Michele De Luca, Luca Marmorini**, HPE-Coxa.	A Dynamic System Approach for the Experimental Characterization of a Multi-Hole Spray **(2017-24-0106)** **Alessandro Montanaro, Luigi Allocca,** Istituto Motori CNR; **Amedeo Amoresano, Giuseppe Langella,** Università Federico II.		**Engine NVH (ICE502)** In-Situ Measurements of the Piston and Connecting Rod Dynamics Correlated with TEHL-Simulation Techniques **(2017-24-0157)** **Wolfgang Gross**, IVK/Universitat Stuttgart; **Ahmad Rabanizada, Konstantin Markstädter,** University of Kassel; **Harald Stoffels,** Ford Werke GmbH; **Michael Bargende,** Universitat Stuttgart; **Adrian Rienäcker**, University of Kassel.
12:20	12:40	A Flow and Loading Coefficient-based Compressor Map Interpolation Technique for Improved Accuracy of Turbocharged Engine Simulations **(2017-24-0023)** **Karim Gharaibeh, Aaron W. Costall,** Imperial College London.	Outward-Opening Hollow-Cone Spray Characterization by Experimental and Numerical Approach in Evaporative and Non-Evaporative Conditions **(2017-24-0108)** **Alessandro Montanaro, Marianna Migliaccio, Luigi Allocca, Carlo Beatrice, Valentina Fraioli,** Istituto Motori CNR; **Roberto Ianniello**, Univ. di Cassino e del Lazio Meridionale.		TITLE **(Oral Only)** AUTHORS, kistler.
12:40	14:00	**Lunch break**			

Tuesday, 12

14:00	14:40	**Investigations on Real World Fuel Consumption Reduction Potential of Hybrid Electric and Conventional Powertrain and Vehicles Using a Dedicated Simulation Platform - Damien Maroteaux** Renault (France)/ **Chairman:**			
14:40	15:10	**Coffee break**			
		Room Teatro	***Room Donna Lucia***	***Room Capri***	***Room Rotonda***
		Engine Management and Control (ICE104) **Chairman:**	**Fuel Injection and Sprays: Modeling (ICE301)** **Chairman:**	**Combustion In Spark Ignition Engines (ICE201/1)** **Chairman:**	**Combustion in Compression Ignition Engines (ICE202/1)** **Chairman:**
15:10	15:30	A Control-Oriented Knock Intensity Estimator **(2017-24-0055)** **Enrico Corti, Claudio Forte, Gian Marco Bianchi, Lorenzo Zoffoli,** University of Bologna.	Two Concepts of Pumping Fuel in a Gasoline Injector **(2017-24-0102)** **N Balasubramanian, Jayabalan Sethuraman, Stanadyne India Private Limited;** Titus Iwaszkiewicz, Stanadyne LLC .	A Study on Charge Motion Requirements for a Class-Leading GTDI Engine **(2017-24-0065)** **Helmut Ruhland, Thomas Lorenz, Jens Dunstheimer, Albert Breuer, Maziar Khosravi,** Ford Motor Company.	Analysis of a Prototype High-Pressure Hollow Cone Spray Diesel Injector Performance in Optical and Metal Research Engines **(2017-24-0073)** **Carlo Beatrice, Giacomo Belgiorno, Gabriele Di Blasio, Ezio Mancaruso, Luigi Sequino, Bianca Maria Vaglieco,** Istituto Motori CNR.
15:30	15:50	Investigation of Water Injection Effects on Combustion Characteristics of a GDI TC Engine **(2017-24-0052)** **Nicolo Cavina, Nahuel Rojo, Andrea Businaro, Alessandro Brusa, Enrico Corti,** University of Bologna; **Matteo De Cesare,** MAGNETI MARELLI SpA - Div. Powertrain.	Fuel Injection Analysis with a Fast Response 3D-CFD Tool **(2017-24-0103)** **Marlene Wentsch, Marco Chiodi,** FKFS; **Michael Bargende,** FKFS/IVK, University of Stuttgart.	The Reduced Effectiveness of EGR to Mitigate Knock at High Loads in Boosted SI Engines **(2017-24-0061)** **James P. Szybist,** Oak Ridge National Laboratory; **Scott W. Wagnon,William J. Pitz, Marco Mehl,** Lawrence Livermore National Lab; **Derek Splitter,** Oak Ridge National Laboratory.	Neural-Network Based Approach for Real-Time Control of BMEP and MFB50 in a Euro6 Diesel Engine **(2017-24-0068)** **Roberto Finesso, Ezio Spessa, Yixin Yang,** Politecnico di Torino; **Giuseppe Conte, Gennaro Merlino,** General Motors Global Propulsion Systems.
15:50	16:10	Boost Pressure Control in Transient Engine Load with turbocharger Speed Sensing **(2017-24-0049)** **Matteo De Cesare, Federico Covassin, Enrico Brugnoni, Luigi Paiano,** MAGNETI MARELLI SpA - Div. Powertrain.	Numerical simulation of a Direct-Acting Piezoelectric Prototype Injector Nozzle Flow forPartial Needle Lifts **(2017-24-0101)** **Pedro Marti-Aldaravi, Jaime Gimeno,** Universitat Politecnica de Valencia; **Kaushik Saha, Sibendu Som,** Argonne National Laboratory.	Water Injection: A Technology to Improve Performance and Emissions of Down-Sized Turbocharged Spark Ignited Engines **(2017-24-0062)** **Cinzia Tornatore, Daniela Siano, Luca Marchitto, Arturo Iacobacci, Gerardo Valentino,** Istituto Motori CNR; **Fabio Bozza,** Univ of Naples - Istituto Motori CNR.	Spray and Combustion of Diesel Fuel under Simulated Cold-Start Conditions at Various Ambient Temperatures **(2017-24-0069)** **Hyunwook Park,** Korea Advanced Inst of Science & Tech; **Jugon Shin,** Korea Electric Power Research Institute; **Choongsik Bae,** Korea Advanced Inst of Science & Tech.
16:10	16:30	Model-Based Control of BMEP and Nox Emissions in a Euro VI 3.0L Diesel Engine **(2017-24-0057)** **Roberto Finesso, Omar Marello, Ezio Spessa, Yixin Yang,** Politecnico di Torino; **Gilles Hardy,** FPT Motorenforschung AG.	Parametric Analysis of the Effect of the Fluid Properties and the Mesh Setup by Using the Schnerr-Sauer Cavitation Model **(2017-24-0105)** **Stefania Falfari, Gian Marco Bianchi, Giulio Cazzoli,** University of Bologna; **Claudio Forte PhD,** NAIS ENGINEERING; **Sergio Negro,** Univ of Toronto.	Investigation of Knock Damage Mechanisms on a GDI TC Engine **(2017-24-0060)** **Nicolo Cavina, Nahuel Rojo, Lorella Ceschini, Eleonora Balducci,** University of Bologna; **Luca Poggio, Lucio Calogero, Ruggero Cevolani,** Ferrari Auto Spa.	Soot Oxidation in Periphery of Diesel Spray Flame via High-speed Sampling and HR-TEM Observation **(2017-24-0067)** **Yoshiaki Toyama, Nozomi Takahata, Katsufumi Kondo, Tetsuya Aizawa,** Meiji University.
16:30	16:50	**Surge Detection Using Knock Sensors** **(2017-24-0050)** **Anjan Rao Puttige, Robin Hamberg, Paul Linschoten, Goutham Reddy, Andreas Cronhjort,** KTH Royal Institute of Technology; **Ola Stenlaas,** Scania CV AB.	Statistical Approach on Visualizing Multi-Variable Interactions in a Hybrid Breakup Model under ECN Spray Conditions **(2017-24-0104)** **Daniel M. Nsikane,** Univ of Brighton, Ricardo UK Ltd; **Kenan Mustafa, Andrew Ward,** Ricardo UK Ltd; **Robert Morgan, David Mason, Morgan Heikal,** Univ of Brighton.	Experimental investigation of the in-cylinder convective heat transfer in an S.I. engine **(Oral Only)** **Thomas De Cuyper,** Ghent University	Performance Improvement and Emission Control of a Dual Fuel Operated Diesel Engine **(2017-24-0066)** **Maria Cristina Cameretti, Roberta De Robbio, Raffaele Tuccillo,** University of Naples Federico II - Italy.
16:50	17:10	Real Time Estimation of Particle Size Distribution at the Exhaust of a Diesel Engine by Using a Neural Network Model **(2017-24-0051)** **Ferdinando Taglialatela, Mario Lavorgna,** STMicroelectronics; **Silvana Di Iorio, Ezio Mancaruso, Bianca Maria Vaglieco,** Istituto Motori CNR.			
17:10	17:30	Automated Model-Based Calibration Methodologies enhancing Accuracy, Time and Experimental Effort Savings through Regression Techniques, Neural Networks and 1D-CFD Simulation **(2017-24-0054)** **Francesco de Nola, Andrea Molteni, Roberto Picariello,** Teoresi S.p.A.; **Giovanni Giardiello, Alfredo Gimelli, Massimiliano Muccillo,** University Napoli Federico II - DII.			
17:30	17:50	A Correlation Methodology Between AVL Mean Value Engine Model and Measurements With Concept Analysis of Mean Value Representation for Engine Transient Tests **(2017-24-0053)** **Silvio A. Pinamonti, Domenico Brancale,** AVL Italia SRL; **Gerhard Meister,** AVL LIST GmbH; **Pablo Mendoza,** CNH Industria.			

Wednesday, 13

start	stop	Hotel Quisisana			
8:30	17:30	**Registration**			
9:00	9:40	**From T2W to LCA-zero-CO2 mobility concepts and their different shades of green - Christof Schernus** FEV (Germany) / **Chairman:**			
9:40	10:20	**Co-Optimization of Fuels and Engines (Co-Optima) - John Farrell National** Renewable Energy Laboratory, NREL (USA) / **Chairman:**			
10:20	10:50	**Coffee break**			
		Room Teatro	***Room Donna Lucia***	***Room Capri***	***Room Rotonda***
		0-D and 1-D Modeling and Numerics (ICE 101/3) **Chairman:**	**Exhaust Emission Control Systems (ICE401)** **Chairman:**	**Combustion in Gaseous-Fueled Engines (ICE204)** **Chairman:**	**Multi-Dimensional Engine Modeling (ICE102/1)** **Chairman:**
10:50	11:10	Estimating the CO2 Emissions Reduction Potential of Various Technologies in European Trucks using VECTO Simulator **(2017-24-0018)** **Nikiforos Zacharof**, ICCT; **Georgios Fontaras, Theodoros Grigoratos, Biagio Ciuffo,** European Commission Joint Research; **Dimitrios Savvidis,** European Commission - DG CLIMA; **Oscar Delgado, J. Felipe Rodriguez,** ICCT.	Optical and Analytical Studies on DPF Soot Properties and Consequences for Regeneration Behavior **(2017-24-0126)** **Christian Zöllner, Dieter Brueggemann,** Bayreuth Engine Research Center (BERC).	Analysis of Scavenged Pre-Chamber for Light Duty Truck Gas Engine **(2017-24-0095)** **Zbynek Syrovatka, Michal Takats, Jiri Vavra,** Czech Technical Univ.	Gas Exchange and Injection Modeling of an Advanced Natural Gas Engine for Heavy Duty Applications **(2017-24-0026)** **Davide Paredi, Tommaso Lucchini, Gianluca D'Errico, Angelo Onorati,** Politecnico di Milano; **Stefano Golini, Nicola Rapetto,** FPT Industrial SpA.
11:10	11:30	Comparison of Eulerian and Lagrangian Models of Diesel Fuel Injection and Combustion **(2017-24-0006)** **Alejandro Aljure, Xavier Tauzia, Alain Maiboom,** Ecole Centrale de Nantes.	Investigations of Lean NOx Trap (LNT) Regeneration Strategy for Diesel Engines **(2017-24-0124)** **Michael Maurer, Peter Holler, Stefan Zarl, Thomas Fortner,** BMW Group Werk Steyr; **Helmut Eichlseder,** Graz University of Technology.	Spray Model Based Phenomenological Combustion Description and Experimental Validation for a Dual Fuel Engine **(2017-24-0098)** **Christophe Barro,** ETH Zurich / Vir2sense; **Curdin Nani, Richard Hutter, Konstantinos Boulouchos,** ETH Zurich.	Evaluation of Wall Heat Flux Models for Full Cycle CFD Simulation of Internal Combustion Engines Under Motoring Operation **(2017-24-0032)** **Gilles Decan, Stijn Broekaert, Jan Vierendeels, Sebastian Verhelst,** Ghent University; **Tommaso Lucchini, Gianluca D'Errico,** Politecnico di Milano.
11:30	11:50	Development of a Spray-Based Phenomenological Soot Model for Diesel Engine Applications **(2017-24-0022)** **Alessio Dulbecco, Gregory Font,** IFP Energies Nouvelles, Institut Carnot IFPEN TE.	Comparative Investigation of Traditional and Innovative Emission Control Systems for Lean Burn Engines - an Energetic Analysis **(2017-24-0125)** **Angelo Algieri, Pietropaolo Morrone, Teresa Castiglione, Sergio Bova,** University of Calabria; **Jessica Settino,** University of Malta.	Experimental and Numerical Investigation of the Engine Operational Conditions Influences on a Small Un-Scavenged Pre-Chambers Behavior **(2017-24-0094)** **Guoqing XU,** ETH Zürich / Liebherr Machines Bulle SA; **Yuri Martin Wright, Panagiotis Kyrtatos, Konstantinos Bardis, Michele Schiliro,** Liebherr Machines Bulle SA; **Konstantinos Boulouchos,** ETH Zürich.	A Zonal-LES Study of Steady and Reciprocating Engine-like Flows Using a Modified Two-Equation DES Turbulence Model **(2017-24-0030)** **Vesselin Krassimirov Krastev,** University of Tuscia; **Luca Silvestri, Giacomo Falcucci, Gino Bella,** University of Rome "Tor Vergata".
11:50	12:10	Experimental and Numerical Assessment of Multi-Event Injection Strategies in a Solenoid Common-Rail Injector **(2017-24-0012)** **Andrea Piano, Giulio Boccardo, Federico Millo,** Politecnico di Torino; **Andrea Cavicchi, Lucio Postrioti,** Università degli Studi di Perugia; **Francesco Concetto Pesce,** General Motors Global Propulsion Systems.	Control Oriented Modeling of SCR Systems for Automotive Application **(2017-24-0121)** **Ivan Arsie, Giuseppe Cialeo, Federica D'Aniello, Cesare Pianese,** Università di Salerno; **Matteo De Cesare, Luigi Paiano,** Magneti Marelli SpA Powertrain.	Natural Gas Fueled Engines Modeling under Partial Stratified Charge Operating Conditions **(2017-24-0093)** **Lorenzo Bartolucci, Stefano Cordiner, Vincenzo Mulone, Vittorio Rocco,** University of Rome Tor Vergata.	Development of a Reduced Chemical Mechanism for Combustion of Gasoline-Biofuels in Spark Ignition Engine Application **(2017-24-0039)** **Daniele Piazzullo,** Università di Roma "Tor Vergata"; **Michela Costa, Vittorio Rocco,** CNR - Istituto Motori; **Youngchul Ra, Ankith Ullal,** Michigan Technological University.
12:10	12:30	Digital Shaping and Optimization of Fuel Injection Pattern for a Common Rail Automotive Diesel Engine through Numerical Simulation **(2017-24-0025)** **Francesco Sapio, Andrea Piano, Federico Millo,** Politecnico di Torino; **Francesco Concetto Pesce,** General Motors Global Propulsion Systems.	Robust DPF Regeneration Control for Cost-Effective Small Commercial Vehicles **(2017-24-0123)** **Christopher Eck**, ISUZU MOTORS Germany GmbH; **Futoshi Nakano**, ISUZU MOTORS Limited Japan.	Particle Formation and Emissions in an Optical Small Displacement SI Engine Dual Fueled with CNG DI and Gasoline PFI **(2017-24-0092)** **Francesco Catapano, Silvana Di Iorio, Paolo Sementa, Bianca Maria Vaglieco**, Istituto Motori CNR.	Assessment of Port Water Injection Strategies to Control Knock in a GDI Engine Through Multi-Cycle CFD Simulations **(2017-24-0034)** **Michele Battistoni, Carlo N. Grimaldi, Valentino Cruccolini, Gabriele Discepoli,** Università degli Studi di Perugia; **Matteo De Cesare,** MAGNETI MARELLI SpA - Div. Powertrain.
12:30	12:50	Numerical Investigation on the Effects of Different Thermal Insulation Strategies for a Passenger Car Diesel Engine **(2017-24-0021)** **Sabino Caputo, Federico Millo,** Politecnico di Torino; **Giancarlo Cifali, Francesco Concetto Pesce,** General Motors Global Propulsion Systems.	Fundamental Study of GPF Performance on Soot and Ash Accumulation Over Artemis Urban and Motorway Cycles - Comparison of Engine Bench Results with GPF Durability Study on Road **(2017-24-0127)** **Lauretta Rubino,** GM Europe Rüsselsheim; **Dominic Thier, Torsten Schumann,** NGK Europe GmbH; **Stefan Guettler, Gerald Russ,** University Of Applied Sciences.	Experimental Investigation of Orifice Design Effects on a Methane Fuelled Prechamber Gas Engine for Automotive Applications **(2017-24-0096)** **Laura Sophie Baumgartner, Stephan Karmann, Fabian Backes, Andreas Stadler,** **Georg Wachtmeister,** Technical University of Munich.	Experimental Validation of Combustion Models for Diesel Engines Based on Tabulated Kinetics in a Wide Range of Operating Conditions **(2017-24-0029)** **Tommaso Lucchini, Gianluca D'Errico, Tarcisio Cerri, Angelo Onorati,** Politecnico di Milano; **Gilles Hardy,** FPT Motorenforschung AG.
12:50	13:10	Numerical Analysis on the Potential of Different Variable Valve Actuation Strategies on a Light Duty Diesel Engine for Improving Exhaust System Warm Up **(2017-24-0024)** **Andrea Piano, Federico Millo,** Politecnico di Torino; **Davide Di Nunno, Alessandro Gallone,** General Motors Global Propulsion Systems.	Exhaust Emissions Control: 60 Years of Innovation and Development **(2017-24-0120)** **Matthew Keenan,** Ricardo UK, Ltd.	Fundamental Aspects of Jet Ignition for Natural Gas Engines **(2017-24-0097)** **Epaminondas Mastorakos, Patton Allison, Andrea Giusti, Pedro De Oliveira,** University of Cambridge; **Sotiris Benekos, Yuri Wright, Christos Frouzakis,** ETH Zurich; **Konstantinos Boulouchos,** Swiss Federal Institute of Technology.	Effect of EGR on Performance and Emission Characteristics of a GDI engine A CFD Study **(2017-24-0033)** **Priyanka Dnyaneshwar Jadhav, J M Mallikarjuna,** Indian Institute of Technology, Madras.
13:10	13:30	Numerical Simulation of the Combustion Process of a High EGR, High Injection Pressure, Heavy Duty Diesel Engine **(2017-24-0009)** **Federico Millo, Giulio Boccardo, Andrea Piano,** Politecnico di Torino; **Luigi Arnone, Stefano Manelli, Giuseppe Tutore, Andrea Marinoni,** Kohler Engines.		Chemical Imaging in a Diesel-Ignited Dual-Fuel Optical Engine Using High-Speed Infrared Narrowband Imaging **(Oral Only)** **Eric Guyot**, Telops	Effect of Mixture Distribution on Combustionand Emission Characteristics in a GDIEngine A CFD Analysis **(2017-24-0036)** **S Krishna Addepalli, Om Prakash Saw, J M Mallikarjuna,** Indian Institute of Technology Madras.
13:30	14:30	**Lunch break**			

Wednesday, 13

14:30	15:10	**Insights into GDI Engine Combustion from an Optical Access Engine - Richard Stone** Oxford Unversity (UK) / **Chairman:**			
15:10	15:40	**Coffee break**			
		Room Teatro	***Room Donna Lucia***	***Room Capri***	***Room Rotonda***
		LTC/HCCI/PCCI/RCCI (ICE203/3) **Chairman:**	**Emissions Measurement and Testing (ICE403/1)** **Chairman**	**Combustion In Spark Ignition Engines (ICE201/2)** **Chairman:**	**Combustion in Compression Ignition Engines (ICE202/2)** **Chairman:**
15:40	16:00	Parametric Analysis of the Effect of Pilot Quantity, Combustion Phasing and EGR on Efficiencies of a Gasoline PPC Light-Duty Engine **(2017-24-0084)** **Giacomo Belgiorno, Gabriele Di Blasio, Carlo Beatrice,** Istituto Motori CNR; **Nikolaos Dimitrakopoulos, Martin Tuner, Per Tunestal,** Lund University.	A Review of State-of-the-Art Particle Sensors for Onboard Diagnostics & Emission Monitoring **(Oral Only)** **Imad Khalek**, Southwest Research Institute	CFD Optimization of n-Butanol Mixture Preparation and Combustion in an Research GDI Engine **(2017-24-0063)** **Sebastiano Breda, Alessandro D'Adamo, Stefano Fontanesi, Marco Del Pecchia,** Università di Modena e Reggio Emilia; **Simona Merola, Adrian Irimescu,** Istituto Motori CNR .	Comparing the Effect of Fuel/Air Interactions in a Modern High-Speed Light-Duty Diesel Engine **(2017-24-0075)** **Felix Leach, Riyaz Ismail, Martin Davy,** University of Oxford; **Adam Weall, Brian Cooper,** Jaguar Land Rover.
16:00	16:20	Influence of Blend Ratio and Injection Parameters on Combustion and Emissions Characteristics of Natural Gas-Diesel RCCI Engine **(2017-24-0083)** **Hassan Khatamnejad, Shahram Khalilarya, Samad Jafarmadar,** Urmia University; **Mostafa Mirsalim,** Amirkabir University; **Mufaddel Dahodwala,** FEV North America Inc.	Analysis of the Influence of Outdoor Temperature in Vehicle Cold-Start Operation Following EU Real Driving Emissions Test Procedure **(2017-24-0140)** **Roberto Aliandro Varella,** Universitiy of Lisbon - IST; **Gonçalo Duarte, Patricia Baptista,** IN+ - IST (ULisboa); **Pablo Mendoza Villafuerte,** CNH Industrial; **Luis Sousa,** IDMEC - IST (ULisboa).	X-Ray Radiography Measurements of the Thermal Energy in Spark Ignition Plasma at Variable Ambient Conditions **(2017-24-0178)** **Katarzyna E. Matusik, Daniel J. Duke, Alan L. Kastengren, Christopher F. Powell,** Argonne National Laboratory.	Zero Dimensional Models for EGR Mass- Rate and EGR Unbalance Estimation in Diesel Engines **(2017-24-0070)** **Stefano D'Ambrosio, Daniele Iemmolo, Alessandro Mancarella, Nicolò Salamone, Roberto Vitolo,** Politecnico di Torino; **Gilles Hardy,** FPT Motorenforschung AG.
16:20	16:40	The Influence of High Reactivity Fuel Properties on Reactivity Controlled Compression Ignition Combustion **(2017-24-0080)** **Ross Ryskamp, Gregory Thompson, Daniel Carder,** West Virginia University; **John Nuszkowski,** University of North Florida.	Statistical Determination of Local Driving Cycles Based on Experimental Campaign as WLTC Real Approach **(2017-24-0138)** **Giovanni Meccariello, Livia Della Ragione,** Istituto Motori CNR.	Highly Efficient Natural Gas Engines **(2017-24-0059)** **Massimo Ferrera,** CRF SCpA.	Functional Requirements to Exceed the 100 kW/l Milestone for High Power Density Automotive Diesel Engines **(2017-24-0072)** **Gabriele Di Blasio, Carlo Beatrice, Giacomo Belgiorno,** Istituto Motori CNR; **Francesco Concetto Pesce, Alberto Vassallo,** General Motors.
16:40	17:00	RCCI Combustion Regime Transitions in a Single-Cylinder Optical Engine and a Multi-Cylinder Metal Engine **(2017-24-0088)** **Gregory Roberts, Mark Musculus,** Sandia National Laboratories; **Christine Mounaim Rousselle,** Universite D'Orleans; **Martin Wissink, Scott Curran,** Oak Ridge National Laboratory; **Ethan Eagle,** Wayne State University.	TITLE **(Oral Only)** **Severine Dubroecq,** TSI.	Characterization of Knock Tendency and Onset in a GDI Engine by Means of Conventional Measurements and a Non-Conventional Flame Dynamics Optical Analysis **(2017-24-0099)** **Francesco Catapano, Paolo Sementa, Bianca Maria Vaglieco,** Istituto Motori CNR.	N-heptane Ignition Delay Time Model for Two Stage Combustion Process **(2017-24-0071)** **Fadila Maroteaux,** University of Versailles Saint Quentin; **Bianca Maria Vaglieco,** Istituto Motori CNR.
17:00	17:20	Ammonia-Hydrogen Blends in Homogeneous-Charge Compression-Ignition Engine **(2017-24-0087)** **Maxime Pochet, Hervé Jeanmart,** Université catholique de Louvain; **Ida Truedsson, Fabrice Foucher,** Université d'Orléans; **Francesco Contino,** Vrije Universiteit Brussel.	Measurement of aerosol particle number concentrations down to 1 nm from car emissions **(Oral Only)** **Joonas Vanhanen** AIRMODUS.	Simulation Research on the Combustion Characteristics of Lean-Burn Natural Gas Engine under Different Ignition Timings and Ignition Energies **(2017-24-0064)** **(Written Only)** **En-Zhe Song, Shi-Chao Chu, Li-Ping Yang, Zhen-Ting Liu,** Harbin Engineering University.	The Effect of Cycle-to-Cycle Variations on the NOx-SFC tradeoff in Diesel Engines under Long Ignition Delay Conditions **(2017-24-0100)** **Panagiotis Kyrtatos,** ETH Zurich and Vir2sense GmbH; **Antonio Zivolic, Clemens Brueckner, Konstantinos Boulouchos,** ETH Zurich.
17:20	17:40	**Octane sensitivity and the two-stage ignition behavior** **(Oral Only)** **Angela Violi,** University of Michigan Energy Institute	Understanding and Measuring Sub-23 nm Particle Emissions from Direct Injection Engines **(Oral Only)** **E. Papaioannou, D. Zarvalis, N. Vlachos, A.G. Konstandopoulos, M. Fierz,** APTL; **G. Nicol, M. Sgroi,** Centro Ricerche Fiat; **S. Zinola,** IFP Energies nouvelles; **B. M. Vaglieco, S. Di Iorio,** Istituto Motori – CNR; **C. Barrios,** SEADM S.L.; **P. M. Moselund,** NKT Photonics; **H. Burtscher,** Institute for Aerosol und Sensor Technology.		
20:00		**Social dinner**			

Thursday, 14

start	stop	Hotel Quisisana			
8:30	10:30	**Registration**			
9:00	9:40	**Current state-of-the-art in fuel injection and spray modeling for internal combustion engine simulations - Kelly Senecal** Convergent (USA) / **Chairman:**			
9:40	10:10	**Coffee break**			
		Room Teatro	***Room Donna Lucia***	***Room Capri***	***Room Rotonda***
		Multi-Dimensional Engine Modeling (ICE102/2) **Chairman:**	**Controls for Hybrids and Electric Powertrains (ICE602)** **Chairman:**	**Emissions Measurement and Testing (ICE403/1)** **Chairman:**	**Thermal Management (ICE503)** **Chairman:**
10:10	**10:30**	Chemical Kinetics and Computational Fluid-Dynamics Analysis of H2/CO/CO2/CH4 Syngas Combustion and NOx Formation in a Micro-Pilot-Ignited Supercharged Dual Fuel Engine **(2017-24-0027)** **Nearchos Stylianidis, Ulugbek Azimov, Northumbria University;** **Nobuyuki Kawahara, Eiji Tomita,** Okayama University.	Automatic Generation of Online Optimal Energy Management Strategies for Hybrid Powertrain Simulation **(2017-24-0173)** **Jean-Charles Dabadie, Antonio Sciarretta, Gregory Font, Fabrice Le Berr,** IFP Energies Nouvelles, Institut Carnot IFPEN TE.	Estimation of DPF Soot Loading through Steady-state Engine Mapping and Simulation for Automotive Diesel Engines Running on Petroleum-Based Fuels **(2017-24-0139)** **Francesco Barba, General Motors Global Propulsion Systems;** **Alberto Vassallo,** GM Powertrain; **Vincenzo Greco,** General Motors Global Propulsion Systems.	A New Insulation Concept for Heavy-Duty Diesel Engines to Reduce Heat Loss from the Wall **(2017-24-0161)** **Noboru Uchida, Hideaki Osada,** New ACE Inst. Co., Ltd.
10:30	**10:50**	Investigation of Sub-Grid Model Effect onthe Accuracy of In-Cylinder LES of the TCC Engine Under Motored Conditions **(2017-24-0040)** **Insuk Ko, Kyoungdoug Min,** Seoul National Univ; **Federico Rulli, Alessandro D'Adamo, Fabio Berni, Stefano Fontanesi,** Università degli Studi di Modena.	Route based energy management for plug in hybrid vehicles **(Oral Only)** **Joonyoung Park,** Hyundai Motor Co.	The Impact of WLTP on the Official Fuel Consumption and Electric Range of Plug-in Hybrid Electric Vehicles in Europe **(2017-24-0133)** **Jelica Pavlovic, Alessandro Tansini, Georgios Fontaras, Biagio Ciuffo, Marcos Garcia Otura, Germana Trentadue, Ricardo Suarez Bertoa,** European Commission Joint Research Centre; **Federico Millo,** Politecnico di Torino.	A Model Approach to the Sizing of an ORC Unit for WHR in Transportation Sector **(2017-24-0159)** **Davide Di Battista, Marco Di Bartolomeo, Carlo Villante, Roberto Cipollone,** Università degli Studi dell Aquila.
10:50	**11:10**	A 3D CFD Simulation of an Impacting ECN Spray G Accounting for Heat Transfer Effects on Wallfilm Formation **(2017-24-0041)** **Daniele Piazzullo,** Università di Roma "Tor Vergata"; **Michela Costa, Luigi Allocca, Alessandro Montanaro, Vittorio Rocco,** Istituto Motori CNR.	**Advanced Hybrid and Electric Vehicle Powertrains (ICE601)** Composition Platform for Conventional and Hybrid Powertrains **(2017-24-0172)** **Haijun Chen, Lin Li, Mark Schudeleit, Andreas Lange, Ferit Küçükay,** Institute of Automotive Engineering; **Christian Stamme, Peter Eilts,** Institute of Internal Combustion Engines.	Further Analysis of the Effect of Oxygen Concentration on the Thermal Aging of Automotive Catalysts **(2017-24-0136)** **Kurtis James Irwin, Roy Douglas,** Queen's University of Belfast; **Jonathan Stewart, Andrew Pedlow, Rose Mary Stalker, Andrew Woods,** Catagen Limited.	A Controllable Engine Cooling Pump Based on a Magnetorheological Fluid Clutch **(2017-24-0160)** **Mario Marchetti,** A. Abete S.R.L.; **Riccardo Russo, Salvatore Strano, Mario Terzo,** University of Naples Federico II.
11:10	**11:30**	Influence of Nozzle Eccentricity on Spray Structures in Large Marine Diesel Sprays **(2017-24-0031)** **Imre Gergely Nagy,** Winterthur Gas & Diesel Ltd. / NTUA-DME; **Andrea Matrisciano,** Chalmers Univ. of Technology; **Harry Lehtiniemi, LOGE AB;** **Fabian Mauss,** Brandenburg Univ. of Technology; **Andreas Schmid,** Winterthur Gas & Diesel Ltd.	**Advanced Fuel Cell Vehicle Applications (ICE603)** Influence of Fuel Type on the Performance of a Plug-In Fuel Cell/Battery Hybrid Vehicle with On-Board Fuel Processing **(2017-24-0174)** **Laura Tribioli, Raffaello Cozzolino, Daniele Chiappini,** University of Rome Niccolò Cusano; **Paolo Iora**, University of Brescia.	Fast Hybrid Sensor for PM of Production CI Engines **(2017-24-0137)** **Zhen Zhang, Luigi del Re, Richard Fuerhapter,** Johannes Kepler University Linz.	ICE Thermal Management: a Model Predictive Control Approach for CO2 Reduction **(2017-24-0158)** **Teresa Castiglione, Giuseppe Franzè, Angelo Algieri, Pietropaolo Morrone, Sergio Bova,** University of Calabria.
11:30	**11:50**	Large-Eddy Simulations of a Speed Transient Performed on a Motored Gasoline Engine **(2017-24-0028)** **Adèle Poubeau, Stephane Jay, Anthony Robert, Edouard Nicoud, Christian Angelberger,** IFP Energies Nouvelles, Institut Carnot IFPEN TE.		Development of a Gasoline Particulate Filter for China 6(b) Emission Standards **(2017-24-0135)** **Shuxia Miao, Lin Luo, Yan Liu, Zhangsong Zhan,** Changan Automobile Co., Ltd.	A Model Approach to the Sizing of an ORC Unit for WHR in Transportation Sector **(2017-24-0159)** **Davide Di Battista, Marco Di Bartolomeo, Carlo Villante, Roberto Cipollone,** Università degli Studi dell Aquila.
11:50	**12:10**	Sensitivity of Flamelet Combustion Model to Flame Curvature for IC Engine Application **(2017-24-0038)** **Golnoush Ghiasi, Irufan Ahmed, Nedunchezhian Swaminathan,** University of Cambridge; **Yuri M. Wright,** ETH Zurich/ Combustion+FlowSolutions GmbH; **Jann Koch,** ETH Zurich.		Investigation of Urea Derived Deposits Composition **(Oral Only)** **Scott Eakle, Svitlana Kroll, Cary Henry, Michael J. Rubal PhD,** Southwest Research Institute.	Complete Engine Thermal Model, a Comprehensive Approach **(Oral Only)** **Mirko Bovo AFFILIATION**
12:10	**12:30**	A Chemical-Kinetic Approach to the Definition of the Laminar Flame Speed for the Simulation of the Combustion of Spark-Ignition Engines **(2017-24-0035)** **Giulio Cazzoli, Gian Marco Bianchi, Stefania Falfari,** University of Bologna**; Claudio Forte,** NAIS; **Sergio Negro,** University of Toronto.			
12:30	**13:00**	**Closing Remarks** **Robert M. Wagner**, Oak Ridge NL (USA) **Bianca Maria Vaglieco**, Istituto Motori-CNR (Italy)			