Technical Sessions

Tentative session timetable will be available in mid-September, 2024 from the following website.
http://www.setc-jsae.com/
Note: Papers published in the program may be rejected depending on the reviewed results.

Advanced Combustion (As of Apr. 9, 2024)

Organizers: Keisuke Ito (SUZUKI MOTOR CORPORATION), Akira Iijima (Nihon University), Tatsuya Kuboyama (Chiba University), Satoshi Takayama (SUZUKI MOTOR CORPORATION), Simona Silvia Merola (STEMS-CNR)

20249008	**Timing and Behavior of Autoignition in Cylinder on LSPI of Supercharged SI Engine** Takaya Omori, Junya Tanaka (Kogakuin University)
20249022	**Effect of Ignition Position on Lean Limit in Prechamber Ignition Combustion** Takeru Onuma, Hiroto Yamada, Taisei Ugajin, Kaito Shinozaki, Ryota Tahara, Akira Iijima (Nihon University)
20249023	**Study on the Optimal Pre-Chamber Geometry for Active Pre-Chamber Gas Engines** Kotaro Yasuda, Yudai Yamasaki (The University of Tokyo), Takahiro Sako (Osaka Gas Co., Ltd.) Kenta Suzuki (Isuzu Motors Limited)
20249044	**Enhancing Low Temperature Lean Combustion of CH4-H2 Blends Through a Prechamber Equipped Engine** Francesco Balduzzi, Giovanni Ferrara (University of Florence), Silvana Di Iorio, Paolo Sementa (STEMS - CNR)
20249063	**Detailed Approach for Pre-Chamber Heat Release Analysis for the HSASI Pre-Chamber Spark Plug Using a Pressure Sensor Glow Plug** Sascha Holzberger, Maurice Kettner (Karlsruhe University of Applied Sciences), Roland Kirchberger (Graz University of Technology)
20249079	**Numerical Studies on the Relation Between the Multiple Auto-Ignition and Pressure Wave in the Premixed Charge** Kenji Yoshida, Kota Iizumi (Hiroshima Institute of Technology)
20249094	**Research on the Combustion Characteristics of Port Injection Hydrogen Engines for Motorcycles** Haruaki Suzuki (SUZUKI MOTOR CORPORATION)
20249095	**Simultaneous Direct-photography of Flame Propagation inside Pre-Chamber and Main-Chamber of Gasoline Engine with Passive Pre-Chamber System** Yasuo Moriyoshi, Tatsuya Kuboyama (Chiba University), Satoshi Hokimoto (Sustainable Engine Research Center Co.), Shuichi Egashira, Yoshitaka Nagai (Yamaha Motor Co., Ltd.)
20249104	**Improvement of Lean Burn Characteristics with Ozone Addition in a Diesel Micro-Pilot Natural Gas Engine** Yoshimitsu Kobashi, Shoki Miyata, Nobuyuki Kawahara (Okayama University)
20249108	**Effects of Hydrogen Addition on Spark Knock Suppression Under High Engine Speed and Boosted Conditions** Jun Goto (Yamaha Motor Co., Ltd.), Yoshito Ueno (Hokkaido University), Yoshimitsu Kobashi (Okayama University), Gen Shibata, Hideyuki Ogawa (Hokkaido University), Kentaro Kojima (Yamaha Motor Co., Ltd.)
20249119	**The Similarity Study of the Transient Heat Transfer of Impinging Flames Under CI Engine-like Conditions** Jiale Cao, Tie Li, Run Chen, Shiyan Li, Xinyi Zhou, Xingyu Xu (Shanghai Jiao Tong University)
20249120	**Heat Transfer Characteristics of Lean Methane Flame in the Region near the Wall Boundary Layer** Xuefeng Xue, Run Chen, Tie Li (Shanghai Jiao Tong University)

Renewable Energy and Alternative Fuels (As of Apr. 2, 2024)

Organizers: Toru Nakazono (LEMA/YANMAR HOLDINGS CO., LTD.), Yuji Araki (Yamaha Motor Co., Ltd.), Paul Richards (Consultant)

20249010	**Evaluation and Visualization of Surfactant Effect on Single Emulsified Fuel Droplet for Diesel Engine** Yuta Kurahashi, Hiromu Katsuki, Junya Tanaka (Kogakuin University)

Technical Sessions

Renewable Energy and Alternative Fuels (Continued)

20249050	**Experimental Investigation of n-Heptane/Ethanol Blended Fuels on Auto-Ignition and Flame Propagation in High Temperature/Pressure Constant Volume Combustion Vessel** Tokua Tateishi, Riki Yamaguchi (Hiroshima University), Takaya Hara, Yuya Honda, Michiharu Kawano, (Mazda Motor Corporation), Hiroshi Terashima (Hokkaido University), Daisuke Shimokuri (Hiroshima University)
20249057	**Characterization of TCR-Diesel Injection and Ignition in Comparison to Conventional Diesel Fuels** Jan Seeger, Marco Taschek (OTH Amberg-Weiden), Lukas Strauss, Michael Wensing (FAU Erlangen-Nuernberg)
20249060	**Experimental Investigation for the Effect of Cavity Geometry on the Flame Propagation and Auto-Ignition in RCM** Riki Yamaguchi, Daigo Esaki, Tokua Tateishi, Ali Hassan Osaf (Hiroshima University), Takaya Hara, Tadashi Tadokoro, Michiharu Kawano (Mazda Motor Corporation), Tomoaki Yatsufusa, (Hiroshima Institute of Technology), Daisuke Shimokuri (Hiroshima University), Yuya Honda (Mazda Motor Corporation), Hiroshi Terashima (Hokkaido University)
20249065	**Experimental Investigation of a Hydrogen Fueled Natural Gas Engine and Ion Current Measurement for Combustion Diagnostics in Pure Hydrogen Operation** Naqib Salim, Youssef Beltaifa, Maurice Kettner (Karlsruhe University of Applied Sciences), Oliver Loose, Tycho Weissgerber (Weissgerber Engineering GmbH)
20249068	**Numerical Investigation of Electrolyte Feed System Designs at the Stack Level of Vanadium Redox Flow Batteries** Patcharawat Charoen-amornkitt, Poramet Aiemsathit (King Mongkut's University of Technology Thonburi), Takahiro Suzuki, Shohji Tsushima (Osaka University), Nut Suwanpakdee, (King Mongkut's University of Technology Thonburi)
20249069	**Local and Global Entropy Generation of Topographically Optimized Porous Reactors in Reaction-Diffusion Systems Considering Coupling Effects Between Heat and Mass Transfer** Patcharawat Charoen-amornkitt, Mengly Long (King Mongkut's University of Technology Thonburi), Shohji Tsushima, Takahiro Suzuki, Mehrzad Alizadeh, (Osaka University), Rotanak Visal Sok Tep (King Mongkut's University of Technology Thonburi)
20249070	**Impacts of Pulsating Flow on Topologically Optimized Porous Reactors in Convection-Diffusion-Reaction Systems** Patcharawat Charoen-amornkitt (King Mongkut's University of Technology Thonburi), Mehrzad Alizadeh, Takahiro Suzuki, Shohji Tsushima (Osaka University), Mengly Long (King Mongkut's University of Technology Thonburi)
20249085	**Optimal Porous Electrode Structures for Various Depth of Discharge in All-Vanadium Redox Flow Batteries** Patcharawat Charoen-amornkitt, Poramet Aiemsathit (King Mongkut's University of Technology Thonburi), Pengfei Sun, Mehrzad Alizadeh (Osaka University), Yossapong Laoonual (King Mongkut's University of Technology Thonburi), Takahiro Suzuki, Shohji Tsushima (Osaka University)
20249086	**Multi-Objective Optimization of Material Distribution in the Anode Catalyst Layer for Proton Exchange Membrane Water Electrolyzer Applications** Patcharawat Charoen-amornkitt, Peerapat Orncompa, Phonlakrit Passakornjaras (King Mongkut's University of Technology Thonburi), Mehrzad Alizadeh, Takahiro Suzuki, Shohji Tsushima (Osaka University)
20249089	**Effects of Solid–Electrolyte Interphase Growth on Electrochemical Impedance Spectra of Lithium-Ion Batteries** Patcharawat Charoen-amornkitt, Vikrom Kiniman, Kotchakarn Nantasaksiri (King Mongkut's University of Technology Thonburi)

Technical Sessions

Renewable Energy and Alternative Fuels (Continued)

20249101	**Additive Manufacturing of Poly (Vinyl Alcohol)/Alginate-SPEEK Membrane for Water Electrolyzer Application** Patcharawat Charoen-amornkitt, Jirawong Prapprajit (King Mongkut's University of Technology Thonburi), Nuttapol Risangud, Krisda Tapracharoen (National Metal and Materials Technology Center)
20249111	**Effects of CO2 Concentration on Combustion Characteristics of Compressed Biomethane Gas** Takuma Kobayashi (Waseda University)
20249117	**Experimental Study of Pre-Chamber Hydrogen Flame Jet Ignition of Ammonia/Air Mixture in Constant Volume Combustion Chamber** Shuo Yin, Jiangping Tian, Zechuan Cui, Xiaolei Zhang, Mingyuan Ye, Deyuan Zhu, Tiancheng Xu, Kaile Wei, Keiya Nishida (Dalian University of Technology)
20249118	**Experimental Study on Thermo-Catalytic Ammonia Decomposition into Hydrogen** Ze Li, Tie Li (Shanghai Jiao Tong University)

Diesel Engine

Organizers: Koji Yoshida (Nihon University), Tadao Okazaki (LEMA/KUBOTA Corporation), Tomoaki Yatsufusa (Hiroshima Institute of Technology), Paul Litke (US Air Force Research Laboratory)

20249009	**Finite Element Analysis and Test Validation of New Cummins Agricultural Structural Engine** Arun Jyoti Pathak, Naval Gupta (Cummins Technical Center, India), Marcel Schubert (Cummins Inc., Darlington)
20249116	**Development of 13.4kW Horizontal Water-Cooled Diesel Engine- Improvement of Fuel Efficiency and Emission Performance** Kenta Shiomi (KUBOTA Corporation)

Emission and Environmental Impacts (As of Apr. 2, 2024)

Organizers: Tadao Okazaki (LEMA/KUBOTA Corporation), Leonid Tartakovsky (Technion - Israel Institute of Technology)

20249004	**Coupled Analysis of First Principle Calculation and Chemical-kinetics Simulation to Predict the Activity of Three Way Catalyst** Kazuya Miura (SUZUKI MOTOR CORPORATION), Hiroki Kusaba, Tomoya Miyoshi (Kumamoto University), Hiroshi Yoshida (Kanazawa University), Hiroyuki Tsuchizaki (SUZUKI MOTOR CORPORATION), Masato Machida (Kumamoto University)
20249014	**Viscous Fan Clutch Characterization and Testing to Reduce Vehicle Noise and Improve Fuel Efficiency** Nalavadath Kiran (Ashok Leyland Ltd)
20249016	**Investigation on Degradation Process of PdRuIr/CZ "Pseudo-Rh" Catalysts used for Motorcycles** Takuya Motegi, Shunya Tatara, Shunpei Takamoto, Kosuke Doi (Yamaha Motor Co., Ltd.)
20249025	**Experimental Study of Port Water Injection System on Single Cylinder Diesel Engine Performance and Exhaust Emission** Kaleemuddin Mohiuddin Syed, Sandip Chaudhari, Girish Khairnar, Rahul Katariya, Pranjal Jagtap, Vikram Bhoite (Greaves Cotton Limited)
20249041	**Estimation Method of Life Cycle Greenhouse Gas Emissions of Motorcycle Applicable from Individual Unit to Sales Volume** Yuichi Mori, Hirotaka Kawatsu, Kazuhiko Tanaka, Takumi Yamaguchi, Toshiki Aoki, Ryuta Niimura (Honda Motor Co., Ltd.)
20249081	**Visualization of Atomized Droplet Behavior and Distribution Under Two-Layer Multiphase Flow in a Urea SCR Systems** Joe Ono, Masayuki Ochiai, Tetsuo Nohara (Tokai University)

Technical Sessions

Emission and Environmental Impacts (Continued)

20249097	**Development of NOx Storage Catalyst and Investigation of Deterioration Mechanism for Small Powertrains** Fumiya Nakano, Yusuke Koito (Umicore Shokubai Japan Co., Ltd.)
20249113	**Evaluation of Portable Emission Measurement Systems (PEMS) Accuracy by Simultaneous Measurement of PEMS and Laboratory-based Analyzers** Masahiro Matsuoka, Hiroshi Hirai, Takayuki Ito (Japan Automobile Research Institute)

Engine Components and Fuel Supply Systems (As of Apr. 2, 2024)

Organizers: Wataru Yamamoto (Kawasaki Motors, Ltd.), Michihisa Nakagawa (Kawasaki Motors, Ltd.) Tatsuya Kuboyama (Chiba University), Adrian Irimescu (STEMS-CNR)

20249076	**Study on Flex Fuel Compatible Coatings for Automotive Fuel Tank** Dinesh Babu Pandi, Gomathy Priya Shanmugam, Arun Nagarkatti, Manish Gopal, Prathap Anbalagan (TVS Motor Company Limited)
20249105	**Virtual Encoder for Achieving Crank Angle Resolution Measurements of In-Cylinder Pressure in Small Engines by Using Time Based Data Acquisition** Adrian Irimescu, Giovanni Cecere, Simona Silvia Merola, Bianca Maria Vaglieco (STEMS-CNR)
20249109	**CFD Analysis of Pintle-Nozzle Spray for Swirl Chamber Type Small Diesel Engine -Application of Hole-Nozzle Atomization Model to Pintle-Nozzle-** Tadao Okazaki, Tsukasa Fujiwara (KUBOTA corporation)

Powertrain Controls (As of Apr. 2, 2024)

Organizers: Shigeho Sakoda (Yamaha Motor Co., Ltd.), Mikael Bergman (KTH Royal Institute of Technology

20249019	**Development of Cylinder Deactivation Control During Idle for Conventional Engines** Shoji Yanagida (SUZUKI MOTOR CORPORATION)
20249024	**Model Based ECU Validation for Small Motorcycles** Hirofumi Fujiwara, Atsushi Maruyama (Honda Motor Co., Ltd.)
20249061	**Trends in the Automated and Automatic Transmission System for Two Wheeled Vehicles** Prantik Kundu, Ajay Shetty, Deepak Venkatesh Balakrishna (Robert Bosch India)
20249078	**Changes of Shifting Rate of Metal V-Belt Type CVT During Speed Up/Down Under Quasi-Idle Loading Condition** Yuichirou Mori, Kazuya Okubo, Kiyotaka Obunai (Doshisha University)
20249103	**Real-Time Control of Hydrogen Injection in a PFI Internal Combustion Engine Based on an Online Physics-Based Model for Estimating Trapped Air and EGR** Francesco Balduzzi, Claudio Galli, Marco Ciampolini, Luca Romani, Giovanni Ferrara (University of Florence), Giovanni Vichi (YANMAR R&D EUROPE)

Engine Technology (As of Apr. 2, 2024)

Organizers: Keisuke Ito (SUZUKI MOTOR CORPORATION), Masahito Saitou (Kawasaki Heavy Industries, Ltd.), Shogo Tadakuma (SUZUKI MOTOR CORPORATION), Kensuke Suzuki (SUZUKI MOTOR CORPORATION), Takuya Warashina (Honda Motor Co., Ltd.), Arun Ravindran (Cummins)

20249033	**Investigation on the Applicability of Passive Type Pre-Chamber Combustion with One Port Fuel Injection System to Small Gasoline Engines** Yoshinori Nakao, Yota Sakurai, Atsushi Hisano, Masahito Saitou (Kawasaki Heavy Industries, Ltd.), Tomoharu Suzuki (Kawasaki Motors, Ltd.)
20249058	**Studying the Lean Burn Operation in Two-Wheelers to Increase Fuel Efficiency and Investigate the Use of Lean NOx Trap Catalyst (LNT) for Lean Burn System** Karthikeyan Somasundaram, Purushothaman Sivaji (Robert Bosch India)

Technical Sessions

Engine Technology(Continued)

20249075	**Performance Testing of Compressed Air System for Engine Used in FSAE** Phatsakon Phan-ophat, Theerapol Ratsatit (Thai-Nichi Institute of Technology)
20249096	**Development of CO2 Emission Reduction Technology for Sport Motorcycles** Naoki Makita, Masaki Torigoshi, Toshihiko Takahashi, Hiroki Takase (Yamaha Motor Co., Ltd.)
20249106	**Study on a Novel Vibration-Free I.C. Piston Engine Based on "Basement and Radial" Configuration Design (Firing Engine Operation and Design Theory for the Compact Engine)** Yojiro Ishino, Haruki Ushimaru, Gen Takase, Momoka Komeda, Takuma Oikawa (Nagoya Institute of Technology)

Hybrid and Electric Drives (As of Apr. 2, 2024)

Organizers: Yasuyuki Muramatsu (Yamaha Motor Co., Ltd.), Kai W. Beck (Andreas STIHL AG & Co. KG)

20249007	**A Study on Optimal Combinations of Winding and Cooling Methods for Downsizing Power Units in Two-Wheeled Vehicles** Ryota Otaki, Tsukasa Shimizu (Yamaha Motor Co., Ltd.)
20249011	**Design, Integration and Testing of a 10 kW Hybrid-Electric Powertrain for Fixed-Wing Vtol Aircraft** Yanan Li, Haiwang Li, Zhi Tao, Gang Xie, Mingxing Yu (Beihang University)
20249027	**Operating Characteristics of an Automotive Adjustable-Field Permanent Magnet Motors with 3D Magnetic Paths and Asymmetric Magnet Arrangement** Yutaro Hiyoshi (Yamaha Motor Co., Ltd.) Toshihiko Noguchi, Kotaro Doi (Shizuoka University)
20249029	**A Power Split eCVT Hybrid for Sustainable Urban Mobility** Wolfgang Johann Schoeffmann, Gernot Fuckar, Manuel Gruber, Christian Hubmann (AVL List GmbH)
20249062	**Traction Voltage Level in Two-Wheelers: Considerations on Safety and Performance** Stefan Schmitt (Vitesco Technologies France)
20249066	**Virtual Calibration Approach to the Development of Control Systems and Strategies for Hybrid L-Category Vehicles** Christian Antoniutti, David Sweet, Sandra Hounsham (Ricardo UK)
20249067	**Development of the Mild Hybrid System for Off-Road Machinery** Kazuaki Koyama (KUBOTA Corporation)
20249077	**Energy Consumption Analysis for EV Taxi Estimations Based on Real-World Driving Patterns in Bangkok, Thailand** Bongkotchaporn Duangsrikaew, Garavig Tanaksaranond, Chalermchon Satirapod (Chulalongkorn University), Chi-na Benyajati, Jiravan Mongkoltanatas (MTEC, National Science and Technology Development Agency)
20249102	**Thermal Management Strategies for Enhanced Performance and Component Longevity in an Electric Scooter** Thariq Ahmad S, Manish Garg, Gavhane Santosh Bhagawat, Poreddy Kambi Reddy (TVS Motor Company Limited)
20249107	**Assessing Lithium-Ion Battery Functionality Post-Thermal Management with Water Mist** Piyatida Trinuruk, Apiwit Jumnongjit, Pathomporn Patthathum (King Mongkut's University of Technology Thonburi)

Technical Sessions

Lubricants and Tribology (As of Apr. 2, 2024)

Organizers: Keisuke Ito (SUZUKI MOTOR CORPORATION), Yuji Mihara (Tokyo City University), Marcus Gohl (APL Automobil-Prüftechnik Landau GmbH)

20249030	**Development of Pistons Suitable for Compact Air-Cooled Engines** Naoyuki Suda, Yoshinari Ninomiya, Taiki Hihara (SUZUKI MOTOR CORPORATION)
20249099	**Investigation on the Wear Regime of Plastic Gears Sliding Against Metal Gears.** Jimpei Yamamoto, Takaharu Suzuki, Natsuki Ako, Shinya Iwasaki, Hirotaka Kurita (Yamaha Motor Co., Ltd.)
20249100	**Development of a High-Frequency Measurement Apparatus for Evaluating Piston Friction in a Small Gasoline Engines** Riku Honda (Tokyo City University)

Materials and Manufacturing (As of Apr. 2, 2024)

Organizers: Hirotaka Kurita (Yamaha Motor Co., Ltd.), Silvio Defanti (University of Modena & Reggio Emilia)

20249001	**Sustainable Manufacturing Process for Automotive Crankshafts** Dinesh Babu Pandi, Prathap Anbalagan, Arun Nagarkatti, Gomathy Priya Shanmugam (TVS Motor Company Limited)
20249006	**Study of Fe-Ni Alloy Plating in Magnetostrictive Torque Sensors** Hiromichi Ohnishi (Yamaha Motor Electronics Co., Ltd.)
20249020	**Dependency of Gear Honing Machine Processing Accuracy on Machine Vibration and The Vibration Reduction Considering Contribution** Hiroaki Hanioka, Yunosuke Ogawa, Junji Yoshida (Osaka Institute of Technology), Yoichi Onishi, Yasuhiro Kurokawa (Kanzaki Kokyukoki Mfg. Co., Ltd.)
20249026	**Effect of Mesopore Structure of Carbon Gel on Improving the Capacity of Electric Double-Layer Capacitors** Zairan Cheng (Yamaha Motor Co., Ltd.), Kiyoharu Nakagawa (Kansai University)
20249031	**Development of Heat-Treated High Pressure Die Cast Aluminium Cylinder Block** Dinesh Babu Pandi, Brahmadevan Padmarajan, Nagendra Kumar Dharmapuri, Prathap Anbalagan, Gomathy Priya Shanmugam (TVS Motor Company Limited)
20249040	**Development of Higher Clarity Injection Molded Windscreen for Motorcycles** Atsushi Yamada, Sakae Endo (Honda Motor Co., Ltd.)

Measurement and Simulation (As of Apr. 2, 2024)

Organizers: Tadao Okazaki (LEMA/KUBOTA Corporation), Tomoaki Yatsufusa (Hiroshima Institute of Technology), Keisuke Ito (SUZUKI MOTOR CORPORATION), Stephan Schmidt (Graz University of Technology)

20249005	**Human Body Model on Multi-Body Dynamics Simulation of Motorcycle** Motohito Ueki (Yamaha Motor Co., Ltd.), Akinori Takayama (SOLIZE Corporation), Noboru Yabe (Yamaha Motor Co., Ltd.)
20249017	**A Concept for Functional Modelling of an E-Bike Power Train** Yannick Rauch, Reiner Kriesten (Karlsruhe University of Applied Sciences)
20249035	**Statistical Analysis of Data Acquired from Propagating Flames in Gasoline Engines Using a Multiple Ion Probe** Tomoaki Yatsufusa, Takehiro Okahira, Kohei Nagashige (Hiroshima Institute of Technology)

Technical Sessions

Measurement and Simulation(Continued)

20249036	**Representative Point of Measurement of Engine ECU and Effect of Vortices and Ambient Wall on Forced Air-Cooling** Jiajun Zhong, Kazuaki Inaba, Ryota Yamaguchi, Ryuta Yasui (Tokyo Institute of Technology), Masafumi Umeno, Takuya Shinoda (DENSO CORPORATION)
20249037	**Mixed Wettability Influence on Water Droplet Behaviour in a PEM Fuel Cell Channel** Simona Silvia Merola, Christian Antetomaso, Adrian Irimescu, Bianca Maria Vaglieco (CNR - STEMS), Elio Jannelli (The University of Naples Parthenope)
20249038	**Prediction Method of Strength Robustness Affected by Arc Welding Sectional Dimensions** Yusuke Hada (SUZUKI MOTOR CORPORATION)
20249045	**Safety Critical DC Series Arc Detection and Measurement in Medium and High Voltage Systems** Alexander Winkler (University of Applied Sciences Upper Austria)
20249055	**Pursuit of Realistic Vehicle Acceleration Sounds Based on Discomfort Index** Shunsuke Ishimitsu, Misaki Nitta (Hiroshima City University), Satoshi Fujikawa, Kiyoaki Iwata, Mayuko Niimi, Masakazu Kikuchi (Mazda Motor Corporation), Mitsunori Matsumoto (Hiroshima City University)
20249071	**Fuel Film Measurement in a SI Gasoline Engine Using a Newly Developed MEMS Sensor** Tatsuya Kuboyama (Chiba University)
20249072	**Statistical Modeling-Based Approach for Exhaust Mass Flow Calculation in Motorcycles** Sebastian Schurl (Graz University of Technology), Stefan Sturm (FVT mbH), Roland Kirchberger (Graz University of Technology)
20249073	**RDE Methodology Development for Motorcycle Emissions Assessment** Sebastian Schurl, Roland Kirchberger (Graz University of Technology)
20249074	**Validation of Thermo-Diffusive Instability Correction in a 3D-CFD Framework for Hydrogen Combustion in ICE** Stefano Sfriso, Fabio Berni, Sebastiano Breda, Stefano Fontanesi (Università degli Studi di Modena e Reggio Emilia), Caio Ramalho Leite, Pierre Brequigny, Fabrice Foucher (Université d'Orléan)
20249083	**Dynamic Analysis of Intake and Exhaust Valve Motion in a High-Performance 4-Stroke Engine, Part1 - Experimental Measurement of Valve Motion Using a High-Frequency Laser Sensor** Luca Romani, Niccolò Grilli, Sandro Raspanti, Giovanni Ferrara (University of Florence), Paolo Trassi, Jacopo Fiaschi (Betamotor S.p.a.), Lorenzo Bosi (University of Florence)
20249084	**Dynamic Analysis of Intake and Exhaust Valve Motion in a High-Performance 4-Stroke Engine, Part 2 - Development of a 1D Numerical Model for the Simulation of the Valvetrain** Luca Romani, Sandro Raspanti, Giovanni Ferrara (University of Florence), Paolo Trassi (Betamotor S.p.a.), Marco Tarchiani (University of Florence)
20249115	**A methodical Concept Study and Optimization of the Drivetrain for Light Commercial Vehicle Applications** Jürgen Tromayer, Thomas Königshofer (Graz University of Technology)

Technical Sessions

NVH Technology (As of Apr. 2, 2024)

Organizers: Gaku Naoe (Honda Motor Co., Ltd.), Keisuke Namekawa (SUZUKI MOTOR CORPORATION), Stephan Schmidt (Graz University of Technology)

20249015	**Identification of Input Force and Contribution for Electric Power Unit Utilizing Virtual Point** Ryoma Kubo, Junji Yoshida, Kenta Hara (Osaka Institute of Technology)
20249032	**Impact of Proximity of Order Components on Auditory Perception of Engine Knocking Sound** Ryuhei Suzuki, Shunsuke Ishimitsu, Misaki Nitta, Mika Sakakibara (Hiroshima City University)
20249059	**Research on Intake Sound Tuning Method by Valve Timing Modification for Enhance Sound Quality in V6 Outboard Engine** Hideta Muramatsu (Honda R&D Co., Ltd.), Taro Matsumoto (Honda Motor Co., Ltd.), Gaku Naoe (Honda Motor Co., Ltd.), Takashi Kondo (Honda R&D Co., Ltd.)
20249064	**Assessment of Annoyance Caused by Knocking Sounds with Order Components** Tomoyuki Hakozaki, Shunsuke Ishimitsu (Hiroshima City University), Kiyoaki Iwata, Satoshi Fujikawa, Mitsunori Matsumoto, Masakazu Kikuchi, Naoki Kishikawa (Mazda Motor Corporation)
20249093	**Examination of the Physical Quantity Corelated Human Sensory for Vibration Caused Engine Downspeeding** Ryuta Ishizaki, Kazuya Sakurai (Yamaha Motor Co., Ltd.)

Two Stroke Engine (As of Apr. 2, 2024)

Organizers: Akira Iijima (Nihon University), Giovanni Ferrara (University of Florence)

20249018	**Analysis of the Air Intake Process of a Two-Stroke Twin-Cylinder Engine** Xicheng Yan, Junjie Zhang (Tianjin Internal Combustion Engine Research Institute)
20249039	**Basic Investigation of Thermodynamic Effects on a Hydrogen Two-Stroke Engine** Terutaka Yasuda (Maruyama Mfg. Co., Inc.)
20249047	**Numerical and Experimental Optimization of the Injection System on a Small 2-Stroke Hydrogen Engine** Stefano Caprioli (Università degli Studi di Modena e Reggio Emilia)
20249054	**DoE Based Numerical Optimization of Intake and Exhaust Port Geometry of a Small Opposed-Piston 2-Stroke (OP2S) Hydrogen Engine** Saurabh Singh, Prasad Boggavarapu, Himabindu M., Ravikrishna R. V. (Indian Institute of Science, Bengaluru)
20249082	**New High Efficiency 2-Stroke Engine Combining Stratified-Scavenging with STIHL Fuel Injection Technology** Tilman Seidel, Robert Köhli, Jan Pawlowski, Christian Lindauer, Ulrich Keck, Kai Willi Beck, Stefan Merkle (ANDREAS STIHL AG & Co. KG)
20249112	**Research on Basic Characteristics of a Two-Stroke Opposed Piston Engine** Shumpei Fukushima, Ryota Uehara, Yoshiaki Hayashi, Ryo Igarashi, Kazuho Tokita, Akira Iijima (Nihon University)

Technical Sessions

Vehicle Dynamics and Safety (As of Apr. 2, 2024)

Organizers: Shingo Ueda (Honda Motor Co., Ltd.), Hisayuki Sugita (SUZUKI MOTOR CORPORATION), Alexander Winkler (University of Applied Sciences Upper Austria)

20249012	**Estimation of Loads and Frame Deformation on Motorcycle Handling** Kazunobu Sakamoto (Yamaha Motor Co., Ltd.)
20249013	**Necessity of Body Torsional Rigidity of Personal Mobility Vehicles (PMVs) with an Inward Tilting Mechanism** Tetsunori Haraguchi (Nagoya University), Tetsuya Kaneko (Osaka Sangyo University)
20249028	**Study on Motorcycle Rider Model Using Reinforcement Learning - Basic Research to Represent the Behavior According to the Rider Proficiency -** Yasuhiro Mitsuhashi (InovaLigo LLC), Hitoshi Takeshita (The MathWorks GK), Yoshitaka Momiyama, Noboru Yabe (Yamaha Motor Co., Ltd.)
20249034	**Analysis of Lane Departure Caused by Inadequate Motorcycle Driving Maneuvers Due to Road Alignment** Hiroshi Kuniyuki, So Takechi (Suwa University of Science)
20249043	**A Two-Step Approach for Tire Lateral Force Observation for Motorcycles** Alexander Winkler (University of Applied Sciences Upper Austria)
20249049	**Analysis of the Effect of Multiple Frame Flexibility on Weave Modes** Reiya Haraoka, Tsuyoshi Katayama, Takahiko Yoshino (Kurume Institute of Technology), Motohito Ueki, Noboru Yabe (Yamaha Motor Co., Ltd.)
20249056	**Analysis of Aerodynamic Characteristic Influences on Motorcycle High Speed Weave Mode** Tsuyoshi Katayama, Haraoka Reiya, Yoshino Takahiko (Kurume Institute of Technology)
20249080	**Dynamic Modeling of an Off-Road Vehicle with Whoops Behavior** Tsuyoshi Inoue, Haruto Ejiri, Akira Heya (Nagoya University), Masahiro Yoshida (Yamaha Motor Co., Ltd.)
20249092	**Investigating Severity of Nighttime Motorcycle Crashes in Thailand** Kunnawee Kanitpong (Asian Institute of Technology)

Vehicle Components (As of Apr. 2, 2024)

Organizers: Shingo Ueda (Honda Motor Co., Ltd.), Hisayuki Sugita (SUZUKI MOTOR CORPORATION), Jürgen Tromayer (Graz University of Technology)

20249046	**Fatigue Analysis of Motorcycle Rear Swing Arm on Different Road Surfaces** Yi-Hau Chiou, Hsiu-Ying Hwang, Liang-Yu Huang (National Taipei University of Technology)
20249051	**Dynamic Nonlinear Viscoelastic Measurements of Vehicle Seat Components for Ride Comfort Evaluation** Chihiro Kamio, Takao Yamaguchi, Shinichi Maruyama (Gunma University), Kazuto Hanawa (SUBARU CORPORATION and Gunma University), Tsutomu Iwase (SUBARU CORPORATION), Tatsuo Hayashi, Toshiharu Sato, Hajime Mogawa (NHK SPRING CO., LTD.)

Data Driven Digitalization (As of Apr. 22, 2024)

Organizers: Shigeho Sakoda (Yamaha Motor Co., Ltd.), Bernard Geiger (Know-Center GmbH)

20249121	**Accelerating Battery Thermal Analysis by Integrating CFD simulation and Machine Learning techniques** Gurudevan Devarajan (Siemens Industry Software (India) Private Limited), Wei Zhou, Jiguang He (BMW Brilliance Automotive Ltd.), Lichao Ji (Siemens Industry Software (Beijing) Co., Ltd.), Ganesh Vaidyanathan (Siemens Industry Software (India) Private Limited), Jiao Wang (Siemens Industry Software (Shanghai) Co., Ltd.)