◆ Event Overview ◆

Tuesday, July 25
15:00 - 17:00   Registration
18:00 - 20:00   Welcome Party

Wednesday, July 26		
8:00 - 17:00 Registration		
10:00 - 17:00 Exhibition		
9:30 - 10:30 Opening Remark & Plenary Lecture PL-1 (Room A)		
Room A	Room B	Room C
11:00 - 12:15 OS1 Modeling 1	11:00 - 12:15 Spray and Spray Combustion 1	11:00 - 12:15 Measurement and Diagnostics 1
12:15 - 13:40 Lunch Break		
13:40 - 15:20 OS1 Modeling 2	13:40 - 15:20 Spray and Spray Combustion 2	13:40 - 14:55 Measurement and Diagnostics 2
15:20 - 15:50 Break		
15:50 - 17:30 OS1 Modeling 3	15:50 - 17:05 Spray and Spray Combustion 3	15:50 - 17:30 Engine Control

Thursday, July 27		
8:30 - 17:00 Registration		
10:00 - 17:00 Exhibition		
9:00 - 9:50 Plenary Lecture PL-2 (Room A)		
Room A	Room B	Room C
10:20 - 12:00 OS2 Heat Transfer Measurement and Analysis 1	10:20 - 12:00 Diesel Combustion 1	10:20 - 11:10 Combustion, Thermal and Fluid Science
12:00 - 13:30 Lunch Break		
13:30 - 15:35 OS2 Heat Transfer Measurement and Analysis 2	13:30 - 15:10 Diesel Combustion 2	13:30 - 14:45 Fuels
15:35 - 16:00 Break		
16:00 - 16:50 Plenary Lecture PL-3 (Room A)		
18:00 - 20:00 Banquet (Hotel Granvia Okayama)		

Friday, July 28		
8:30 - 17:00 Registration		
10:00 - 15:00 Exhibition		
Room A	Room B	Room C
9:00 - 10:40 OS3 Chemical Reaction Analysis 1	9:00 - 10:40 Exhaust Emissions and Measurements	9:00 - 10:15 Gas Engine
10:40 - 11:00 Break		
11:00 - 12:15 OS3 Chemical Reaction Analysis 2	11:00 - 12:15 SI Combustion 1	11:00 - 12:15 OS4 Novel Measurement
12:15 - 13:40 Lunch Break		
13:40 - 15:20 OS5 AfterTreatment 1	13:40 - 15:20 SI Combustion 2	13:40 - 15:20 HCCI/RCCI/PCCI Combustion
15:20 - 15:40 Break		
15:40 - 17:45 OS5 AfterTreatment 2	15:40 - 17:20 SI Combustion 3	15:40 - 17:20 Lubricants, Engines, and EngineComponents
17:50 - 18:00 Closing Remark (Room A)		

◆ Technical Session Program ◆

Wednesday, July 26

9:30 - 9:40　　Room A

Opening Remark: Eiji Tomita (Chairperson of Organizing Committee)

9:40 - 10:30　　Room A

Plenary Lecture (PL-1): Research and Development of Super-Lean Burn for High Efficiency SI Engine

- Challenge for Innovative Combustion Technologies to achieve 50% thermal efficiency -

Prof. Norimasa Iida (Keio University)

Chairperson: Toshiaki Kitagawa (Kyushu University)

Room A	Room B	Room C
11:00 - 12:15　　OS1 **Modeling 1**	**11:00 - 12:15** **Spray and Spray Combustion 1**	**11:00 - 12:15** **Measurement and Diagnostics 1**
Chairperson: **Makoto Nagaoka (Toyota Central R&D Labs., Inc.)** **Tatsuya Kuboyama (Chiba University)**	Chairperson: **Munemasa Hashimoto (Isuzu Advanced** **Engineering Center, Ltd.)** **Tsukasa Hori (Kobe University)**	Chairperson: **Yoshio Zama (Gunma University)** **Makoto Koike (Toyota Central R&D Labs., Inc.)**
A101: Numerical Study of Auto-ignition Propagation Modes in TRF-Air Mixtures　　-Towards a Better Understanding of Abnormal Combustion in Spark-ignition Engines Cécilia Dul, Anthony Robert, Jean-Marc Zaccardi and Jordan Rudloff (IFP Energies nouvelles) **A102: LES Analysis of Knock in a Direct Injection Spark Ignition Engine** A. Robert, K. Truffin, N. Iafrate, S. Jay, O. Colin and C. Angelberger (IFP Energies nouvelles) **A103: Determination of Knock Limited Spark Advance in Engine Cycle Simulation** Tie Li, Tao Yin, Bin Wang and Xinqi Qiao (Shanghai Jiao Tong University)	**B101: Study of Diesel Spray Development from Mixture Formation and Evaporation to Initial Flame Development** Yuya Noda, Koki Shimizu, Yuzuru Nada and Yoshiyuki Kidoguchi (Tokushima University) Keiya Nishida (Hiroshima University) Pengbo Dong (Mitsubishi Motors Corp.) Youichi Ogata (Hiroshima University) **B102: L2F Measurements of Diesel Fuel Spray for Numerical Simulation of Atomization** Keisuke Komada, Yamato Naruse and Hironobu Ueki (Nagasaki University) **B103: Multidimensional CFD Simulation of Diesel Spray Combustion Using Chemical Kinetics** Nobuyuki Kawahara, Norihiro Takeda, and Eiji Tomita (Okayama University)	**C102: Cavitation Flow Visualization in Marine Diesel Injectors** Reto Balz (Chalmers University of Technology, Winterthur Gas&Diesel Ltd.) Andreas Schmid (Winterthur Gas&Diesel Ltd.) David Sedarsky (Chalmers University of Technology) **C103: Time-Resolved Measurements of Mixing Quantities in Diesel Jets** Julien Manin (Sandia National Laboratories, Artium Technologies) Lyle M. Pickett, Scott A. Skeen and Jonathan H. Frank (Sandia National Laboratories) **C104: Effect of Impingement Distance on Fuel Adhesion of Hole-Nozzle Spray under Various Injection Pressures** Hongliang Luo, Shintaro Uchitomi, Keiya Nishida and Youichi Ogata (University of Hiroshima) Wu Zhang and Tatsuya Fujikawa (Mazda Motor Corporation)

12:15 - 13:40　　Lunch Break

13:40 - 15:20 OS1 Modeling 2	13:40 - 15:20 Spray and Spray Combustion 2	13:40 - 14:55 Measurement and Diagnostics 2
Chairperson: Yasuo Moriyoshi (Chiba University) Chihiro Kondo (Okayama University of Science)	Chairperson: Yoshiyuki Kidoguchi (Tokushima University) Jiro Senda (Doshisha University)	Chairperson: Makoto Koike (Toyota Central R&D Labs., Inc.) Yoshihiro Kobayashi (Tokyo Denki University)
A104: Towards the Accurate Prediction of Soot in Engine Applications Jian Gao and Tang-Wei Kuo (General Motors Global Research & Development) A105: Extending the Flamelet Generated Manifold for Soot and NOx Modeling in Diesel Spray Combustion H. Yigit Akargun, Bersan Akkurt, Niels G. Deen and L.M.T. Somers (Eindhoven University of Technology) A106: Numerical Analysis of the Effect of Various Multiple Injection Strategies on the Emissions in a Diesel Engine Gyujin Kim (Seoul National University) Hoimyung Choi (Gachon University) Kyoungdoug Min (Seoul National University) A107: A Study on Practical Utilization of Diesel Combustion Calculation - A Series of Studies for Automatic Diesel Engine Adaptation - Taizo Kitada, Shinji Hayashi, Masato Kuchita and Kei Shigahara (Mitsubishi motors corporation) Yasuyuki Sakai (University of Fukui)	B104: Experimental Studies on Non-Evaporating and Evaporating Sprays of n-Dodecane and n-Hexadecane Prasad Boggavarpu and R. V. Ravikrishna (Indian Institute of Science) B105: Experimental Investigation on Flow Structure of an Impingement Evaporated Diesel Spray near a Wall Yoshio Zama and Shota Watanabe (Gunma University) Hiroki Watanabe and Noboru Uchida (New ACE Institute Co., Ltd.) B106: Development of a Phenomenological Diesel Spray Model after End-of-Injection with Varying Injection Rate Long Liu, Yan Peng and Xiuzhen Ma (Harbin Engineering University) B107: Three-Dimensional Simulation of Heat Transfer in Diesel-Spray Flame Impinging on Flat Wall using Skeletal Mechanism of n-Tridecane Tsukasa Hori, Koh Fujiwara and Makoto Tsubokura (Kobe University) Kazunari Kuwahara (Osaka Institute of Technology) Eriko Matsumura and Jiro Senda (Doshisha University)	C105: The influence of Operating Conditions on Combustion Chamber Deposit Surface Structure Alex Weidenlener, Heiko Kubach, Jürgen Pfeil and Thomas Koch (Karlsruhe Institute of Technology) C106: Detailed Measurement on Propagating Flame of Methane-Oxygen Mixture by Densely Installed Multiple Ion-probes Tomoaki Yatsufusa, Keigo Kii, Kentaro Takatani and Shinsuke Miyata (Hiroshima Institute of Technology) C107: Experimental Study of the Dynamics of Pulsated Laminar Counter-Flow Spray Flames Using Optical Flow and Proper Orthogonal Decomposition Yeseul Park and Gyung-Min Choi (Pusan National University) Laurent Zimmer (CNRS - CentraleSupélec, Université Paris-Saclay)

| 15:20 - 15:50   Break |||

15:50 - 17:30 OS1 Modeling 3	15:50 - 17:05 Spray and Spray Combustion 3	15:50 - 17:30 Engine Control
Chairperson: Tsukasa Hori (Kobe University) Hidefumi Fujimoto (Mazda Motor Corporation)	Chairperson: Jiro Senda (Doshisha University) Yoshihiro Nakase (SOKEN, INC)	Chairperson: Mitsuo Hirata (Utsunomiya University) Akira Kato (Honda R&D Co., Ltd.)
A108: Road-to-Rig-to-Desktop - Virtual Development Using Real-Time Engine Modeling and Powertrain-Co-Simulation Jakob Andert, Feihong Xia, Serge Klein, Rene Savelsberg and Daniel Guse (RWTH Aachen University) Raul Tharmakulasingam, Matthias Thewes and Johannes Scharf (FEV GmbH) A109: Prediction Model of Mechanical Loss in Turbocharger Satoshi Sakagami, Akane Uemichi, Yudai Yamasaki and Shigehiko Kaneko (The University of Tokyo) A110: Towards a Predictive CFD Approach for Assessing Noise in Diesel Compression Ignition Engines. Impact of the Combustion Strategies Antonio Jose Torregrosa, Alberto Broatch, Xandra Margot and Josep Gomez-Soriano (Universitat Politecnica de Valencia - CMT-Motores Termicos) A111: Uncertainty Quantification of Spray Wall Impingement Simulation Cao Jingjing and Xu Min (Shanghai Jiao Tong University) David L. S. Hung (University of Michigan-Shanghai Jiao Tong University Joint Institute, Shanghai Jiao Tong University) Pan Hujie and Dong Xue (Shanghai Jiao Tong University)	B108: Flow Characteristics of DI Gasoline Injector near the Nozzle Exit Using RCEM Kenta Ogiwara, Yoshio Zama and Tomohiko Furuhata (Gunma University) B109: Correlating Gasoline Spray Propagation in Constant Volume Chamber and Optically Accessible Engines Richard Welss, Sebastian Bornschlegel, Jan Seeger, Bianca Deinhard and Michael Wensing (Instutute of engineering thermodynamics FAU Erlangen-Nuremberg, SAOT School of advanced optical technologies FAU Erlangen-Nuremberg) B110: Evaporation of Gasoline-Like Sprays from an Outwards-Opening Injector Studied with LIEF Mats Andersson (Chalmers University of Technology) Akichika Yamaguchi (DENSO Corporation) Hua Wang and Petter Dahlander (Dantec Dynamics A/S)	C108: NOx Prediction Model for Diesel Engine Control Motoki Takahashi, Masato Miura, Ryosuke Ikemura, Yudai Yamasaki, Akane Uemichi and Shigehiko Kaneko (The University of Tokyo) C109: Adaptive Output Feedback Control System Design for Diesel Engine with Triple Fuel Injection Seiya Fujii and Ikuro Mizumoto (Kumamoto University) C110: Diesel Engine Combustion Control with Triple Fuel Injections based on Cerebellar Model Articulation Controller (CMAC) in Feedback Error Learning Terunaga Tamura, Makoto Eguchi, Mengxing Qiao and Hiromitsu Ohmori (Keio University) C111: Study on a Control-Oriented Model of Boosted HCCI Engine and Control Simulation Takuya Hayashi, Yudai Yamasaki, Masaki Miyoshi and Shigehiko Kaneko (The University of Tokyo) Takayuki Hikita, Saori Mizuno and Takuma Fujii (Mazda Motor Corporation)

Thursday, July 27

9:00 - 9:50   Room A
Plenary Lecture (PL-2): Combustion Control - An Enabler for High-efficiency Clean Combustion Engines
Prof. Per Tunestål (Lund University)
Chairperson: Yudai Yamasaki (The University of Tokyo)

Room A	Room B	Room C
10:20 - 12:00 OS2	10:20 - 12:00	10:20 - 11:10
Heat Transfer Measurement and Analysis 1	**Diesel Combustion 1**	**Combustion, Thermal and Fluid Science**
Chairperson: **Hidenori Kosaka (Tokyo Institute of Technology)** **Hiroyuki Yamashita (Mazda Motor Corporation)**	Chairperson: **Paul Miles (Sandia National Laboratories)** **Akira Kikusato (Waseda University)**	Chairperson: **Toshiaki Kitagawa (Kyushu University)** **Mitsuharu Oguma (National Institute of Advanced Industrial Science and Technology)**
A201: DNS of Turbulent Heat Transfer on the Flat Plate Under Pulsating Flow Conditions Tatsuro Yamazaki, Yutaka Oda and Ryosuke Matsumoto (Kansai University) Masashi Katsuki (Osaka University) **A202: Development of MEMS Heat Flux Vector Sensor for Internal Combustion Engines** Kazuhito Dejima, Osamu Nakabeppu, Keisuke Nagasaka, Yuto Nakamura and Tomohiro Tsuchiya (Meiji University) **A203: Cylinder Wall Temperature Measurement in the Optical Engine Using a Flexible Wireless Sensor** Taejin Kwan, Minhyeok Lee, Kenichi Morimoto and Yuji Suzuki (The University of Tokyo) **A204: Wall Heat Transfer of Undeveloped Turbulent Flow in Internal Combustion Engines** Yuji Harada, Kenji Uchida, Tatsuya Tanaka, Kiyotaka Sato, Zhu Qianjin, Fujimoto Hidefumi and Hiroyuki Yamashita (Mazda Motor Corporation) Mamoru Tanahashi (Tokyo Institute of Technology)	**B201: Auto-ignition Characteristics of Gasoline Sprays with Two-Stage Injection in CI Engines** Yoshimitsu Kobashi, Shuhei Yuze, Hideyuki Ogawa and Gen Shibata (Hokkaido University) Satoshi Kato (Kanazawa Institute of Technology) Yoshiaki Nishijima, Wakichi Kondo, Shingo Morishima, Shinichiro Kawakita, Tomoki Fujino and Takamasa Ito (DENSO CORP.) **B202: Investigation of the Combined Application of Water-in-Fuel Emulsion and Exhaust Gas Recirculation in a Medium Speed Diesel Engine** Beat von Rotz (Paul Scherrer Institute) Panagiotis Kyrtatos (Swiss Federal Institute of Technology (ETH) Zurich) Kai Herrmann (University of Applied Sciences and Arts Northwestern Switzerland (FHNW)) Konstantinos Boulouchos (Swiss Federal Institute of Technology (ETH) Zurich) **B203: Effects of Fuel-injection Parameters on Performance and Exhaust Emissions in a Diesel Engine Equipped with Dual-injector System** Naoto Horibe, Kenta Egoshi, Kazuki Hirayama, Ryota Imanishi, Hiroki Kuwabara, Hiroshi Kawanabe and Takuji Ishiyama (Kyoto University) **B204: Experimental Analysis of Heat-Loss with Different Piston Wall Surface Conditions in a Heavy-Duty Diesel Engine** Hideaki Osada, Hiroki Watanabe, Yasuhiro Onozawa, Kenji Enya and Noboru Uchida (New ACE Institute Co., Ltd.)	**C202: Flame Brush Thickness of Premixed Turbulent Flames: Hydrodynamic Theory versus Experiments** Meng Zhang (Xi'an JiaotongUniversity) Advitya Patyal and Navin Fogla (University of Illinois) Jinhua Wang and Zuohua Huang (Xi'an JiaotongUniversity) Moshe Matalon (University of Illinois) **C203: A Summary of Findings of the Subcooled Liquid Flash Boiling Cycle and its Applications to Automotive Waste Heat Recovery** Dhaminda Hewavitarane and Sadami Yoshiyama (The University of Kitakyushu)

12:00 - 13:30   Lunch Break

13:30 - 15:35 OS2 Heat Transfer Measurement and Analysis 2	13:30 - 15:10 Diesel Combustion 2	13:30 - 14:45 Fuels
Chairperson: Hiroyuki Yamashita (Mazda Motor Corporation) Hidenori Kosaka (Tokyo Institute of Technology)	**Chairperson:** Noboru Uchida (New ACE Institute Co., Ltd.) Takayuki Adachi (UD Trucks Corporation)	**Chairperson:** Kiyoshi Kawasaki (The University of Shiga Prefecture) Mitsuru Konno (Ibaraki University)
A205: Micro PIV Investigation of Near Wall Behaviors of Tumble Enhanced Flow in an IC Engine Masayasu Shimura, Shingo Yoshida and Yuki Minamoto (Tokyo Institute of Technology) Takeshi Yokomori (Keio University) Kaoru Iwamoto (Tokyo University of Agriculture and Technology) Mamoru Tanahashi and Hidenori Kosaka (Tokyo Institute of Technology) **A206: A Study on Reduction of Cooling Loss by Water Addition in SI Engine by Using Rapid Compression and Expansion Machine** Ryota Yamada, Susumu Sato and Hidenori Kosaka (Tokyo Institute of Technology) **A207: Engine Heat Loss Reduction by Thermo-Swing Wall Insulation Technology** Akio Kawaguchi, Hiroki Iguma, Hideo Yamashita, Naoki Nishikawa, Chikanori Yamashita and Noriyuki Takada (Toyota Motor Corporation) Yoshifumi Wakisaka and Kenji Fukui (Toyota Central R&D Labs. Inc.) **A208: A Study on the Wall Heat Loss from Diesel Spray Flame with Rapid Compression and Expansion Machine** Masanori Nakata, Seiya Iwamoto, Hiroyuki Masuda, Eriko Matsumura and Jiro Senda (Doshisha University) **A209: Correlation between Piston Surface Temperature and Piston Material and Their Influence on Spray-Wall-Interaction and Spray Combustion** Lukas Weiss and Michael Wensing (Instutute of engineering thermodynamics FAU Erlangen-Nuremberg, SAOT School of advanced optical technologies FAU Erlangen-Nuremberg)	**B205: LES Analysis of Flow and Heat Transfer for Diesel Spray Impinging on a Wall** Hiroshi Kawanabe, Jun Komae and Takuji Ishiyama (Kyoto University) **B206: Time-Frequency Characteristics of Combustion Impact and Noise in a Diesel Engine with Two-Stage Combustion** Masato Mikami, Koki Minato, Shodai Sagara, Yoshiki Sumida and Takehiko Seo (Yamaguchi University) **B207: Noise-Canceling Spike between Pressure Rise Peaks of Pilot and Main Combustion in Diesel Engine** Takayuki Fuyuto and Masahiro Taki (Toyota Central R&D Labs., Inc.) **B208: Temporally and Spatially Resolved Investigation of Soot Morphology in a Transient Diesel Spray Flame via Transmission Electron Microscopy** Hirohito Kuno, Takeshi Matsudaira, Katsufumi Kondo and Tetsuya Aizawa (Meiji University)	**C204: Influence of Boost Pressure on the Combustion Characteristics of a Dual Fuel Diesel Engine Ignited by Biofuels with Natural Gas** Yasufumi Yoshimoto (Niigata Inst. of Technology) Eiji Kinoshita and Takeshi Otaka (Kagoshima University) **C205: Arctic Biodiesel Performance and PM Number Emissions** David R. Emberson, Karl Oskar P. Bjørgen, Terese Løvås (Norwegian University of Science and Technology) **C206: Extinction Studies of Furanic Fuels using a Counterflow Diffusion Flame** Amrit Bikram Sahu, Saurabh Markendaya and R.V. Ravikrishna (Indian Institute of Science)
15:35 - 16:00 Break		
16:00 - 16:50 Room A Plenary Lecture (PL-3): Our Direction for ICE -Efficient Contribution to Environment- Mr. Mitsuo Hitomi (Mazda Motor Corporation) Chairperson: Hidenori Kosaka (Tokyo Institute of Technology)		

Friday, July 28		
Room A	Room B	Room C
9:00 - 10:40 OS3 **Chemical Reaction Analysis 1**	**9:00 - 10:40** **Exhaust Emissions and Measurements**	**9:00 - 10:15** **Gas Engine**
Chairperson: **Kohtaro Hashimoto (Honda R&D Co., Ltd.)** **Kazunari Kuwahara (Osaka Institute of Technology)**	Chairperson: **Bungo Kawaguchi (Toyota Motor Corporation)** **Rio Shimizu (Toyota Motor Corporation)**	Chairperson: **Kimitoshi Tanoue (Oita University)** **Toru Nakazono (Yanmar Co., Ltd.)**
A301: Experimental and Kinetic Study on Ignition Delay Times of 2,5-DMF/n-Heptane Blends Erjiang Hu, Zhenhua Gao, Jinfeng Ku, Xin Meng and Zuohua Huang (Xi'an Jiaotong University) **A302: Experimental Study of 2-Methylfuran-PRF Blend Ignition Characteristics Using a Rapid Compression Machine** Junya Watanabe, Kotaro Tanaka and Mitsuru Konno (Ibaraki University) **A303: A Validation Study on Chemical Modeling for the Gasoline Primary Reference Fuel and Toluene** Naoto Izumi, Kouji Fujino and Tatsuo Oguchi (Toyohashi University of Technology) **A304: Equivalence Ratio Dependence of Reactivity of Low and High Temperature Reactions for Ultra-Lean Gasoline Surrogate/Air Weak Flames in Micro Flow Reactor with Controlled Temperature Profile** Philipp Grajetzki, Hisashi Nakamura, Takuya Tezuka and Susumu Hasegawa (Tohoku University) Kaoru Maruta (Tohoku University, Far Eastern Federal University)	**B301: Back Pressure Effect on Three-Way Catalyst Light-Off** Jan H. Baron and Wai K. Cheng (Massachusetts Institute of Technology) **B302: Effect of Exhaust Gas Recirculation on physiochemical characteristics of Diesel Soot** Behzad Rohani and Choongsik Bae (Korea Advanced Institute of Science and Technology) **B303: The Influence of Exhaust Line Temperature on Diesel Engine PM** Yoshihiro Kobayashi, Shohei Toyoda and Masataka Arai (Tokyo Denki University) **B304: Detailed Characterization of Particulate Matter in Alcohol Exhaust Emissions** Sam Shamun, Maja Novakovic, Vilhelm B. Malmborg, Calle Preger, Mengqin Shen, Maria E. Messing, Joakim Pagels, Martin Tunér and Per Tunestål (Lund University)	**C301: A Study on the Influence of the Strength of Ejected Jet on Combustion in a Natural Gas Lean Burn Engine with a Sub-chamber with Direct Injector Inside** Hideaki Nakano, Ryu Kaya and Shinichi kobayashi (Honda Moter Co.,Ltd) Yuzuru Nada and Yoshiyuki Kidoguchi (Tokushima University) **C302: Investigation of Mixture Formation and Flammability of Natural Gas and Diesel under Dual Fuel Operating Conditions in the Limits of Flame-quenching and Knocking** Andreas Peter (Institute of Engineering Thermodynamics FAU Erlangen-Nuremberg) Sebastian Riess and Michael Wensing (Institute of Engineering Thermodynamics FAU Erlangen-Nuremberg, SAOT School in advanced optical) Jens Fruehhaber and Thomas Lauer (Institute for Powertrains & Automotive Technology Vienna University of Technology) **C304: Air Entrainment and Combustion Process of High-Pressure Gas Jet in Gas Direct Injection Engines** Tharshan Thiripuvanam, Hiroshi Tajima and Daisuke Tsuru (Kyushu University)
10:40 - 11:00 Break		

11:00 - 12:15 OS3 **Chemical Reaction Analysis 2**	11:00 - 12:15 **SI Combustion 1**	11:00 - 12:15 OS4 **Novel Measurement**
Chairperson: **Tatsuo Oguchi (Toyohashi University of Technology)** **Kotaro Tanaka (Ibaraki University)**	Chairperson: **Min Xu (Shanghai Jiao Tong University)** **Hidefumi Kataoka (Osaka Prefecture University)**	Chairperson: **Nobuyuki Kawahara (Okayama University)** **Tomonori Urushihara (Mazda Motor Corporation)**
A305: Empirical Approach to Small-Scale Reaction Mechanism for Regular Gasoline Surrogate Fuel Kazunari Kuwahara and Yoshihiro Ueda (Osaka Institute of Technology) Yasuyuki Sakai (University of Fukui) Tsukasa Hori (Kobe University) Tomoyuki Mukayama, Eriko Matsumura and Jiro Senda (Doshisha University) **A306: Reduced Chemical Kinetic Mechanism for the Prediction of Ignition Delay Time and Laminar Flame Velocity of Natural Gas Combustion** Yasuyuki Sakai, Yusuke Asano and Haruki Fujii (University of Fukui) Akira Miyoshi (Hiroshima University) **A307: Assessing the Predictions of a NOx Kinetic Mechanism on Recent Hydrogen and Syngas Experimental Data** Yingjia Zhang (Xi'an Jiaotong University) Olivier Mathieu and Eric Petersen (Texas A&M University) Gilles Bourque (Siemens Canada Limited) Qianqian Li (Xi'an Jiaotong University) Henry Curran (National University of Ireland) Zuohua Huang (Xi'an Jiaotong University)	**B305: Fuel Economy Improvement of TGDI Engine Using On-Board Gasoline Fuel Reforming** Seung Woo Lee and Hong-kil Baek (Hyundai Motor Company) Thomas C. Hollowell and Hyuk Im (Hyundai America Technical Center Inc.) **B306: Effects of Oxygen Enrichment on Combustion Instability under Super Lean and High EGR Conditions** Yuzo Kawasoe and Kazuki Harada (Kyushu University) Hideki Hashimoto (Kobe City College of Technology) Osamu Moriue and Eiichi Murase (Kyushu University) **B307: Effects of Gasoline Composition and Octane Sensitivity on the Response of DISI Engine Knock to Variations of Fuel-Air Equivalence Ratio** Magnus Sjöberg and David Vuilleumier (Sandia National Laboratories) Nozomi Yokoo and Koichi Nakata (Toyota Motor Corporation)	**C305: Simultaneous Two Cross-Sectional Measurements of NH3 Concentration in Bend Pipe Flow Using CT-Tunable Diode Laser Absorption Spectroscopy** Hitoshi Matsui and Kazumasa Udagawa (Isuzu Motors Limited), Yoshihiro Deguchi, Takahiro Kamimoto and Masato Nakagawa (The University of Tokushima) **C306: Online Monitoring and Feedback Control of Ignition Timing Based on Ion Current Signal Phase in EGR Gasoline Engine** Denghao Zhu, Liguang Li, Fuyuan Zhang, Yuedong Chao, Jun Deng and Zongjie Hu (Tongji University) **C307: Measurement of Vibrational and Rotational Temperature in Spark Discharge Plasma by Optical Emission Spectroscopy - Change in Thermal Equilibrium Characteristics of Plasma under Air Flow -** Masao Kinoshita and Takayuki Fuyuto (Toyota Central R&D Labs., Inc.) Hiroshi Akatsuka (Tokyo Institute of Technology)
12:15 - 13:40 Lunch Break		

13:40 - 15:20 OS5 Aftertreatment 1	13:40 - 15:20 SI Combustion 2	13:40 - 15:20 HCCI/RCCI/PCCI Combustion
Chairperson: Takao Fukuma (Toyota Motor Corporation) Kotaro Tanaka (Ibaraki University)	Chairperson: Akira Iijima (Nihon University) Taizo Kitada (Mitsubishi Motors Corporation)	Chairperson: Takayuki Fuyuto (Toyota Central R&D Labs., Inc.) Kazuhiro Akihama (Nihon University)
A308: On the Influence of Inlet Gas Variations and Gas Phase Chemistry in a Three-Way Catalyst Jana Aslanjan (Brandenburg University of Technology) Christian Klauer and Vivien Günther (LOGE AB) Fabian Mauss (Brandenburg University of Technology) **A309: Development of Detailed Surface Reaction Database for TWC Based on Gas Phase and Surface Species Analyses** Daisuke Shimokuri (Hiroshima University) Hiroshi Murakami and Yuhei Matsumoto (Mazda Motor Corporation) Satoshi Hinokuma (Kumamoto University) Naoki Ishimoto, Daisuke Moriyama and Yusuke Kozai (Hiroshima University) Hitoshi Hongou, Hideaki Yokohata and Hiroyuki Takebayashi (Mazda Motor Corporation) **A310: Predictive Numerical Models and Methods for Selective Catalytic Reactor Applications in Diesel Powered Vehicles** David Schellander and Klaus Pachler (AVL List GmbH) Carsten Schmalhorst (AVL Deutschland GmbH) Anton Nahtigal (AVL List GmbH) **A311: Development of an Ammonia-SCR Reaction Computation Model and Experimental Studies of Zeolite Catalysts** Wataru Eijima, Ryutaro Koiwai, Gen Shibata, Hideyuki Ogawa and Yoshimitsu Kobashi (Hokkaido University)	**B308: Impacts of VVT Coupled Miller Cycle Strategies (LIVC and EIVC) on Thermal Efficiency in a Boosted DISI Engine** Yi Gao, Min Xu and Xue Dong (Shanghai Jiao Tong University) **B309: Influence of Spark Discharge Energy and Duration on Cycle-to-Cycle Variations of SI Combustion at Lean Limits** Dongwon Jung, Kosaku Sasaki, Takeshi Yokomori and Norimasa Iida (Keio University) **B310: Spark Distribution to Improve Diluted Gasoline Combustion** Ming Zheng, Shui Yu, Xiao Yu and Zhenyi Yang (University of Windsor) **B311: Application of Non-Thermal Plasmas to Flame Propagation Enhancement in a Rapid Compression and Expansion Machine** Akira Kuramochi and Eiichi Takahashi (National Institute of Advanced Industrial Science and Technology) Makihito Nishioka (University of Tsukuba)	**C308: PPC Operation with Low RON Gasoline Fuel. A Study on Load Range on a Euro 6 Light Duty Diesel Engine** Nikolaos Dimitrakopoulos, Giacomo Belgiorno, Martin Tuner, Per Tunestal, Gabriele Di Blasio and Carlo Beatrice (Lund University) **C309: Effects of Gasoline Viscosity and Injection Pressure on the Performance and Emissions of a Multi-Cylinder Partially Premixed Combustion Engine** Mao Bin, Wang Qiping, Liu Jialin, Liu Haifeng, Zheng Zunqing and Yao Mingfa (Tianjin University) **C310: In-Cylinder Visualization and Engine Out Emissions from CI to PPC for Fuels with Different Properties** Yanzhao An, R. Vallinayagam, S.Vedharaj, Jean-Baptiste Masurier, Mohammad Izadi Najafabadi, Bart Somers and Bengt Johansson (King Abdullah University of Science and Technology) **C311: Effect of Late Inlet Valve Closing on NG-Diesel RCCI Combustion in a Heavy Duty Engine** Zhiqin Jia and Ingemar Denbratt (Chalmers University)
15:20 - 15:40 Break		

15:40 - 17:45 OS5	15:40 - 17:20	15:40 - 17:20
Aftertreatment 2	SI Combustion 3	Lubricants, Engines, and Engine
Chairperson:	Chairperson:	Chairperson:
Kotaro Tanaka (Ibaraki University)	Makoto Kaneko (SUBARU CORPORATION)	Takeshi Serizawa (DAIHATSU Motor Co., Ltd.)
Takao Fukuma (Toyota Motor Corporation)	Magnus Sjöberg (Sandia National Laboratories)	Akihiko Azetsu (Tokai University)
A312: Research on Numerical Analysis Code of Oxidation Behavior of Hydrocarbon on Diesel Oxidation Catalyst Toru Uenishi (Waseda University) Genki Shigeno and Goki Shigeno (Waseda University) Takao Fukuma (Toyota Motor Corporation) Jin Kusaka and Yasuhiro Daisho (Waseda University) **A313: Recent Advances in Diesel Particulate Emission Control** Athanasios G. Konstandopoulos (CPERI/CERTH, Aristotle University) Georgia Kastrinakil, Chrysa Pagkoura and Souzana Lorentzou (CPERI/CERTH) **A314: Investigation of Controlling Factor for Combustion of Diesel Soot - Effect of Oxygen Containing Functional Groups** Saori Hoshi, Daiki Yamashita, Yuji Mahara, Junya Ohyama and Atsushi Satsuma (Nagoya University) **A315: Effects of Flow Velocity and Particle Size on Soot Penetration Depth Determined by the Competition of Bridge Formation** Ryoko Sanui, Mek Srilomsak and Katsunori Hanamura (Tokyo Institute of Technology) **A316: Investigation of the Slip Mechanism of Ash in Diesel Particulate Filter** Yuta Mitsugi, Hironobu Muto, Kotaro Tanaka, Mitsuru Konno (Ibaraki University)	**B312: Study on Laminar Burning Velocity and Markstein Length of Gasoline Surrogate Fuel/Air Mixtures Using Constant Volume Vessel** Hirokazu Uesaka, Ryosuke Matsui, Shota Doi, Masamichi Matsuura, Hidefumi Kataoka and Daisuke Segawa (Osaka Prefecture University) **B313: Study on Factors Affecting Shape Characteristics of Spherically Propagating i-C8H18/O2/N2 Turbulent Flames Using Constant Volume Vessel** Yukihide Nagano, Akihiro Tsuda, Akira Noomo, Takuya Fukushima, Masayoshi Morita and Toshiaki Kitagawa (Kyushu University) **B314: Effects of Enhanced Tumble Ratios on Combustion Performance in SIDI Optical Engine** Jie Yang, Min Xu, Xue Dong, Qiang Wu (Shanghai Jiao Tong University) **B315: The Interaction of Flow-Field and Turbulence on Flame Development Using High-Speed Combustion PIV** Minh Khoi Le, Takashi Furui, Atsushi Nishiyama and Yuji Ikeda (Imagineering, Inc.)	**C312: Surface Modification Process based on Combined Mechanical Methods, for Engine Components** Hatsuhiko Usami (Meijo University) Toshiki Sato (Meijo University, Kanefusa Corporation) Yasuyuki Kanda and Satoru Nishio (Kanefusa Corporation) Tomomi Honda (University of Fukui) Yuji Mihara (Tokyo City University) **C313: Friction Reduction Effect between Piston and Cylinder Surface Treatment Using Floating Liner Engine** Natsuki Kaneko, Hideki Tabata and Yuji Mihara (Tokyo City University) Hatsuhiko Usami (Meijo University) Tomomi Honda (University of Fukui) **C314: High Durability Thin-film Pressure Sensor Development for Engine Sliding Surface** Kouta Miura, Michiyasu Owashi and Yuji Mihara (Tokyo City University) **C315: Development of a New Visualization Technique Using Photochromism for Transport Process of Lubricating Oil around the Engine Piston** Kazaki Kuratsuji, Ikkei Kitajima, Akihiko Azetsu (Tokai University)