Monday, November 10, 2025

10:00 | EX-Hall-1A | 10:00

10:00-10:10 Opening Address

10:15-12:10 Plenary Lectures I

10:15-11:10

"Strategies to Model Acoustic Propagation in Inhomogenous Flows"

Christophe Bailly

Chair: Aiko Yakeno

11:15-12:10

"Using Chemistry to Measure Flow Rate in Geothermal Wells"

Roland N. Horne

Chair: Anna Suzuki

12:10 | LUNCH BREAK | 12:10

13:30

EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chair: O. Mathieu*	**OS15: Turbulence: from Fundamentals to Applications** Contol & Jet *Chair: Y. Hattori*	**OS5: Advanced Applications of Multi-functional Fluids** Advanced Multiphase Flow 1 *Chair: Y. Kaneko*	**OS27: The 21st International Students / Young Birds Seminar on Multi-scale Flow Dynamics**	**OS4: Flow Dynamics and Combustion Technology of Hybrid Rocket Propulsion, 17th Edition** Invited Session *Chair: Y. Saito*	**OS8: Advanced Physical Stimuli and Biological Responses: Promotion of Collaborative Research** *Chair: H.-Y. Wang*	**OS19: Multiphase Thermal Fluid Flow and Its Interface Dynamics** *Chair: J. Okajima*	**GS: General Session** Geothermal *Chair: A. Suzuki*	**OS12: Complex Thermofluid System** Fluid Mechanics Applications I *Chair: H.-Y. Hsu*	**OS24: Dynamics of Flow of Matter in Moving Contacts** *Chair: M. Ohta*
13:30-14:00 OS2-1 **Invited** On the Kinetics of 2,5-DMF Oxidation: Experiments and Modeling *P. Dagaut , G. Dayma* 14:00-14:18 OS2-2 Methane Pyrolysis at High Pressures in a Temperature Controlled Micro Flow Reactor *M. R. Razavi , Ö. L. Gülder* 14:18-14:36 OS2-3 Automatic Generation of High-Temperature Kinetic Models for the Oxidation of Cycloalkanes *S. Brunialti , S. M. Sarathy* 14:36-14:54 OS2-4 Development of Isobutanol Skeletal Mechanism to Predict Ignition Delay and Laminar Flame Speed *Y.-C. Liu , A. Dahiya, J.-S. Lin, K. C. Lin, H. Tao*	13:50-14:10 OS15-1 Active Flow Control on NACA 0015 Airfoil using Backward-Facing Step Fluidic Oscillator *W. Iskandar , Harinaldi, J. Julian, M. I. Adhynugraha, F. Hasim* 14:10-14:30 OS15-2 Heat Transfer Performance of High-Frequency Pulsating Jet Impingement Liquid Cooling at Different Reynolds Numbers *Z.-H. Lin , C.-C. Wang* 14:30-14:50 OS15-3 Shape Optimization of Internal Nozzle Geometry for Desired Jet Exit Velocity Distribution *T. Kiyomoto , Y. Ito*	13:30-13:50 OS5-1 Evaluation of Proton Distribution in Layered Agarose Gels Using Triple-Barreled Glass Microelectrodes *T. Kishimoto , S. Nagayasu, K. Doi* 13:50-14:10 OS5-2 Numerical Simulation on Power Generation by Ion Transport in Carbon Nanotube Composite Paper Considering Electrode Redox Reaction *R. Igari , H. Takana* 14:10-14:30 OS5-3 Visco-dynamism of an Ionic Liquid Crystal and Variable Capacitance Function *C. Lee , R. Miyashita, R. Kumai, H. Goto* 14:30-14:50 OS5-4 Influence of Localized Magnetic Fields on Thermal Performance in Finned Microchannels: A Numerical Insight *S. Ahmad , K. Ali, H. Takana*	**Poster Session I** OS27-1 - OS27-17 Keywords: Heat transfer, Combustion, Energy etc. & Fluid dynamics, Aerodynamics, Multiphase flow etc.	13:30-14:00 OS4-1 **Invited** Development of Indigenous In-Space Hybrid Propulsion System for Turkish Lunar Project *A. Karabeyoglu* 14:00-14:30 OS4-2 **Invited** HyImpulse Sounding Rocket Launch Campaign *M. Kobald* 14:30-14:45 OS4-3 Development and Challenges of Axial Injection End-Burning Hybrid Rocket Using Liquid Oxygen *H. Nagata , S. Suzuki, T. Son, M. Yamaguchi* 14:45-15:00 OS4-4 Development of a 18 KN-class H2O2/PP Hybrid Sounding Rocket *S.-S. Wei , C.-H. Hung, H.-C. Chang*	Opening 13:30-13:35 *Y. C. Cheng & T. Sato* 13:35-14:05 OS8-1 **Invited** Develop a Microfluidic Device for Clinical Applications *B. R. Li* 14:05-14:35 OS8-2 **Invited** Analysis of Protein Mobility in Living Cells by FRAP *K. Yano* 14:35-14:50 OS8-3 Optimal Plasma Jet Treatment for PMMA Microfluidic Bonding with Thermal Resistance *S. H. Lai , C.-H. Dylan Tsai* 14:50-15:05 OS8-4 Experimental Study on the Response of Physical Stimuli to Emulsion Generation on a Coaxial Microfluidic Device *C.-N. Chu , C.-H. Dylan Tsai*	13:30-14:10 OS19-1 **Invited** Making Melting More Complicated *S. G. Huisman* 14:10-14:30 OS19-2 Evaporation-Induced Freezing Dynamics of Droplets Levitated in Acoustic Field *K. Hasegawa , M. Mitsuno, X. Ma* 14:30-14:50 OS19-3 Scale Estimation of Defect-Free and Striated Regions in Solidification during Molten Metal Drop Impact *M. Shirota , T. Okabe, T. Miyagawa, Y. Yamagami, R. Sugita*	13:30-13:48 GS1-1 Coupled Thermal–Solute Tracer Analysis for Subsurface Fracture Structure Characterization *M. Qiao , A. Suzuki* 13:48-14:06 GS1-2 Mapping Heat Flow Paths in Fractured Rocks via Topological Data Analysis *T. Hasumi , Y. Imoto, T. Uda, A. Suzuki* 14:06-14:24 GS1-3 A Simulation Framework for Predicting Co-creation Dynamics Using the Free Energy Principle *R. Chiba , K. Katsuragawa, A. Miura, A. Suzuki* 14:24-14:42 GS1-4 Exploration of Co-Creation Dynamics through Visualizing Value Plurality *A. Miura , K. Katsuragawa, R. Chiba, N. Okada, T. Hasumi, R. Saito, H. Kubota, A. Suzuki* 14:42-15:00 GS1-5 Geothermal Energy and Subjective Well-Being: Cross-Cultural Perspectives on Social Impacts *K. Katsuragawa , A. Suzuki, R. Chiba, A. Miura*	13:30-14:10 OS12-1 **Invited** Simulation of an Atmospheric-Pressure Helium Plasma Jet Generated in Air *H. -P. Yang, I. L. de la Cruz Jr, K.-M. Lin* 14:10-14:25 OS12-2 Applying UV Absorption Spectroscopy to a Laminar Premixed Bunsen Flame under a DC Field *C. Fu , Y.-H. Liao* 14:25-14:40 OS12-3 A Small Propane-Air Diffusion Flame under the DC Electric Field *C.-C. Lin , Y.-H. Liao* 14:40-14:55 OS12-4 Numerical and Experimental Study of Gas Heating in Atmospheric Pressure Plasma Jet *Y. Seelam , K.-M. Lin, H. P. Yang, Y. C. Chen*	13:30-14:10 OS24-1 **Invited** Evaluation of Friction between Intravascular Device and Biomodel *K. Takashima , M. Ohta, K. Yoshinaka, T. Washio, K. Chinzei* 14:10-14:30 OS24-2 Investigation of Superlubricity Mechanisms of Double Network Hydrogels under Lactic Acid Environments for Biological Surface Applications *M. Murashima , J. Tricot, T. Tada, K. Adachi* 14:30-14:50 OS24-3 Wear of Solid Lubricants Under Different Tribological Conditions *V. Fridrici*

15:00 | COFFEE BREAK @ EX-Hall-3B | 15:00

15:15

EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chair: M. Kovacs*	**OS15: Turbulence: from Fundamentals to Applications** Physics & Turbulence *Chair: T. Ishihara*	**OS5: Advanced Applications of Multi-functional Fluids** Functional Flow in Material Process 1 *Chair: H. Takana*	**OS27: The 21st International Students / Young Birds Seminar on Multi-scale Flow Dynamics**	**OS4: Flow Dynamics and Combustion Technology of Hybrid Rocket Propulsion, 17th Edition** Performance Analysis in Propulstion System *Chair: L. Kamps*	**OS8: Advanced Physical Stimuli and Biological Responses: Promotion of Collaborative Research** *Chair: K. Tachibana*	**OS19: Multiphase Thermal Fluid Flow and Its Interface Dynamics** *Chair: T. Mouterde*	**OS14: Innovations in Oncology** *Chair: C. Moyret-Lalle*	**OS12: Complex Thermofluid System** Computatioinal Fluid Dynamics I *Chair: K.-M. Lin*	**OS24: Dynamics of Flow of Matter in Moving Contacts** *Chair: V. Fridrici*
15:15-15:45 OS2-5 **Invited** Laminar Flame Speed Measurement and Kinetics Modeling Study of Tri-Methyl-Phosphate (TMP) Combustion - Toward P-Containing Fire Suppressants for Lithium-Ion Battery Electrolytes *M. Nielsen, S. Vézilier, O. Mathieu , H. Nakamura, E. L. Petersen* 15:45-16:03 OS2-6 On the Formation of HOMs during the Oxidation of Ethers and Alkanes *P. Dagaut , R. Benoit* 16:03-16:21 OS2-7 Bis(2,2,2-TrifluoroEthyl) Methyl Phosphonate as Flame-Retardant for Safer Lithium-Ion Batteries *C. M. Grégoire , D. J. Mohr, P. Diévart, L. Catoire, E. L. Petersen, O. Mathieu*	15:15-15:55 OS15-4 **Invited** Helicity Turbulence Model and its Application to Stellar Angular-Momentum Transport *N. Yokoi* 15:55-16:15 OS15-5 Physical Mechanism of Turbulence Modulation by Polymer Additives in Rotor-Driven Turbulence *M. Suzuki , Y. Motoori, S. Goto* 16:15-16:35 OS15-6 Analysis on Trapping and De-trapping Processes of Small Particles in Thermal Counterflow of Superfluid He II with Quantum Vortex Lines *P. Sanjeeva , M. Nishikawara, Y. Tsuji*	15:15-15:35 OS5-5 Collapse Process of Gas Pore inside Metal Liquid Droplet in Flow Field *J. Yoshikawa , K. Itoh, H. Takana* 15:35-15:55 OS5-6 Fluid Dynamics Orientation of Liquid Crystal and Electro-Chemical Polymerization *A. Tokutake , H. Goto* 15:55-16:15 OS5-7 Electrochemical Polymerization in Liquid Crystal for Producing Optically Active Furan-Based Polymers *I. Otaka , H. Goto*	**Poster Session II** OS27-18 - OS27-33 Keywords: Heat transfer, Combustion, Energy etc. & Fluid dynamics, Aerodynamics, Multiphase flow etc.	15:15-15:30 OS4-5 Demonstration of a Controlled Tethered Landing Attempt Using the HTTP-4 Hybrid Rocket *Y.-X. Chang , S.-C. Wang, Z.-R. Chen, Y.-T. Hou, T.-C. Lee, J.-S. Shiang, Y.-C. Liang, C.-C. Chang, H.-Y. Tso, J.-C. Hsu, L. Yang, J.-W. Huang, M.-T. Ho, S.-S. Wei, J.-S. Wu* 15:30-15:45 OS4-6 Estimation of Hybrid Rocket Combustion States Using an Extended Kalman Filter: A Call for Experimental Validation *T. Shimada* 15:45-16:00 OS4-7 Measurement of Residual Thrust Due to Post-Firing Fuel Ablation in a Hybrid Thruster *H. Kariya , K. Nagayama, K. Utsugi, T. Kuwahara, Y. Saito*	15:15-15:45 OS8-5 **Invited** Intervention in Fibrotic Tissues and Senescent Cells via Physical Stimuli: Development of Novel Therapeutic Techniques Using Thermal and Electrical Stimulation *I. Yagi* 15:45-16:15 OS8-6 **Invited** Microbial Metabolic Alternations by Gas-phase Bioreactions *Y.-Y. Chen , K. Hori* 16:15-16:30 OS8-7 Mechanical Characterization of Microstructured Femoral Implants Under Compression *L.-T. Chen, K.-M. Chan, Y.-W. Chang , W.-Y. Jang*	15:15-15:35 OS19-4 Molecular Dynamics Simulation of Near-Wall Bubble Collapse Induced by Shock Wave *K. Moriyama , T. Mori, S. Watanabe, S. Tsuda* 15:35-15:55 OS19-5 Three-Dimensional Numerical Simulation of Microchannel Taylor Bubble: Effects of Internal Flow Structures on Liquid Film Formation *D. Tsuneoka , J. Okajima* 15:55-16:15 OS19-6 Investigation of Wide Temperature Range Flow Regimes and Lubricating Film Properties in Rotating Disc *C. Wei, D. Nelias , V. Botton, W. Wei, Y. Liu*	15:15-15:35 OS14-1 Blood Circulating Non-Coding SNORD RNA as New Biomarkers for Breast Cancer Relapse *C. Moyret-Lalle , C. Filossi, C. Isaac, V. Marcel* 15:35-15:55 OS14-2 The Blood-Brain Barrier Microfluidic Model for Drug Development of Brain Metastasis *S. Mama , M. Inagaki, M. Kondo, A. Ogita, H. Nishihara, K. Matsuo, K. Funamoto, M. Tachikawa* 15:55-16:15 OS14-3 Kremen1 Dependence Receptor Induces SEC24C And ATG9A-dependent Autophagic Cell Death *S. Ghasemi , S. Brahim, T. Schott, A. Negulescu, C. Geneste, E. Errazuriz-Cerda, G. Ichim, P. Mehlen, O. Meurette*	15:15-15:40 OS12-5 Airfoil Optimization by Adjoint Operator *S.-Y. Lin , C.-C. Liu* 15:40-15:55 OS12-6 Physics-Informed Neural Networks (PINNs) for Prediction and Optimization of Conjugate Heat Transfer in Finned Heat Sinks *E. O. Teng , C.-G. Li, H.-C. Kan* 15:55-16:10 OS12-7 Simulation and Analysis of Airflow Patterns Induced by an Indoor Ceiling Fan Framework *H. W. Bin , C.-G. Li* 16:10-16:25 OS12-8 Velocity-Aware AI Diffusion Model: Generating CFD Fields from Prompts *W.-H. Lan , C.-G. Li, H.-C. Kan*	15:15-15:35 OS24-4 Necessary Conditions for Continuous Super-low Friction in Tribological Systems with Hydrogenated Carbon Coatings under Dry Conditions *K. Kuriyagawa , K. Adachi* 15:35-15:55 OS24-5 Anodization for Self-Formation of Low-Friction Interface in a Tribosystem Using Aluminum Alloy in Engine Oil Boundary Lubrication *T. Yamana , S. Inoue, M. Murashima, K. Adachi* 15:55-16:15 OS24-6 Simulations for Flow of Molecules Through Carbon Nanotubes *S.-F. Huang , T. Tokumasu*

16:45	16:21-16:39 OS2-8 Generating a Simplified Reaction Model for n-C_7H_{16} Using a Genetic Algorithm *K. Igusa , H. Nakamura*		16:15-16:35 OS5-8 Helix Orientation of Fluid Liquid Crystal and Electrochemical Polymerization for Obtaining Conducting Polymer/TCNQ as a Charge Transfer Type Optically Active Electrochromic Polymer *R. Kawakami , H. Goto*		16:00-16:15 OS4-8 Proposal for Low Toxicity Multifunctional Dual-Mode Thruster *K. Nagayama , H. Kariya, K. Utsugi, T. Kuwahara, Y. Saito* 16:15-16:30 OS4-9 Development of High-Regression Rate Fuel for the Shortened Tsuâ-Ing Hybrid Rocket Engine *K.-H. Chang, H.-E. Sun , H.-Y. Tso, C.-C. Chang, S.-C. Wang, J.-C. Hsu, Y.-X. Chang, M.-H. Wang, Y.-T. Chang, T.-Y. Lin, S.-S. Wei, Z. P. Tan, J.-S. Wu* 16:30-16:45 OS4-10 Experimental Study on the Application of Hypergolic Solid Fuel in High-Concentration Hydrogen Peroxide Hybrid Rocket Engines *T.-F. Lin, K.-H. Lee , C.-C. Chang, K.-L. Chang, S.-F. Lin, H.-Y. Tso, J.-S. Wu, Z.-P. Tan, S. -S. Wei*	16:30-16:45 OS8-8 Combining Physics-informed Neural Network with Skeletonized Images for Streamer Propagation Prediction *T.-S. Wu , S. Liu, C.-S. Jao, Y.-C. Cheng*	16:15-16:35 OS19-7 Numerical Study of Microlayer Formation and its Dynamics During Nucleate Boiling of Dielectric Liquid *J. Okajima , H. Ishibashi, K. Ota, P. Stephan*	16:15-16:45 OS14-4 Microvessels-on-Chip: How Extracellular Matrix Physical Properties Influence Vessel Barrier Function *B. Alric , D. Alcaide, J. Cacheux, L. Jalabert, A. Bancaud, Y. T. Matsunaga*	16:25-16:40 OS12-9 CFD Analysis of Airflow-induced Particle Transport in A Clean Room Environment *H.-L. Kuo , C.-G. Li*	16:15-16:35 OS24-7 Gallate Spinels for Micro Energy Harvesting Systems *M. M. Can , J. Liu, S. Kaneko, T. Tokumasu*	16:45
	COFFEE BREAK @ EX-Hall-3B										
17:00	EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B	17:00
	OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chair: Y. Morii*	**OS15: Turbulence: from Fundamentals to Applications** Data Science & Turbulence *Chair: Y. Tsuji*	**OS5: Advanced Applications of Multi-functional Fluids** Functional Flow in Material Process 2 *Chair: A. Dichiara*	**OS27: The 21st International Students / Young Birds Seminar on Multi-scale Flow Dynamics**	**OS4: Flow Dynamics and Combustion Technology of Hybrid Rocket Propulsion, 17th Edition** Fundamental Mechanism in Propulsion System /Round table *Chair: Y. Saito*	**OS8: Advanced Physical Stimuli and Biological Responses: Promotion of Collaborative Research** *Chair: S.-W. Liu*	**OS19: Multiphase Thermal Fluid Flow and Its Interface Dynamics** *Chair: T. Okabe*	**OS14: Innovations in Oncology** *Chair: F. Hollade*	**OS12: Complex Thermofluid System** Thermal Engineering and Multiphase Flow *Chair: W.-H. Tien*	**OS24: Dynamics of Flow of Matter in Moving Contacts** *Chair: T. Tokumasu*	
	17:00-17:18 OS2-9 Carleman Linearization of Reacting Flow Problems toward Quantum Computing *T. Akiba , Y. Morii, M. Lee, K. Maruta, Y. Suzuki* 17:18-17:36 OS2-10 Numerical Study on the Effect of Flame Stretch on Ball-Like Flames in an Extremely Low-Speed Counterflow Field Using Low-Lewis-Number Premixture *K. Nishiyama , J. Daou, A. Tsunoda, Y. Morii, K. Maruta* 17:36-17:54 OS2-11 The Solid Fuel of Different Shapes Burning in Microgravity *S.-C. Hung , S.-Y. Hsu, C.-W. Huang* 17:54-18:12 OS2-12 The Pressure Effect on the PMMA Sphere Burning in Forced and Buoyant Flows *Y.-W. Chung , S.-Y. Hsu* 18:12-18:30 OS2-13 Developing of "Green" Hypergolic Propellants for Next Generation In-space Thruster *C. -S. Chang , K.-L. Chang, S.-S. Wei, J.-S. Wu*	17:00-17:20 OS15-7 Residual-Based Diffusion Model for High-Resolution Flow Field Reconstruction *G. Tabe Jamaat , T. Okatani, Y. Hattori* 17:20-17:40 OS15-8 Pressure Reconstruction from 3D PTV Data Applied to the Wake of F1 Geometries *I. Fumarola , A. Meziane, I. Balbolia, J. Morrison* 17:40-18:00 OS15-9 Analysis of Coarse-grained Turbulent Vorticity Fields at High Reynolds Numbers using Large-scale DNS *T. Ishihara , Y. Kanao, Y. Hattori*	17:00-17:20 OS5-9 Bénard-Rayleigh Convection Imprinted Electro-Chemical Polymerization in Liquid Crystal *A. Tokutake , H. Goto* 17:20-17:40 OS5-10 Synthesis of PEDOT Analogue by Plasma Polymerization Inside a Bubble and Its Application to Conductive Cellulose Composite *S. Kawai , Y. Kaneko, H. Takana* 17:40-18:00 OS5-11 Magneto-dynamics and Electric Function of Ionic Liquid Crystal Triode Device *C. Lee , H. Goto* 18:00-18:20 OS5-12 Polymer Liquid Concentration Chromism *I. Otaka , H. Goto*	**Poster Session III** OS27-34 - OS27-48 Keywords: Fluid dynamics, Aerodynamics, Multiphase flow etc. & Material, Mechanics of materials, etc.	17:00-17:15 OS4-11 Spray Characterization of Novel Rocket Propellants under High Pressure Environment *A. K. M. Poonawala , Reeturaj, N. Kumbhakarna, AldoRonald* 17:15-17:30 OS4-12 Molecular Dynamics Study on Interfacial Mass Transport in the Evaporation of n-Dodecane/Nitrogen Binary Mixtures *S. Chakraborty, B. Kim , L. Qiao* 17:30-17:45 OS4-13 Modeling Regression in CAMUI Hybrid Rockets Varying Concentration of Hydrogen Peroxide *M. Deeble , H. Sakurai, Y. Miyahara, H. Miyasaka, R. Nitta, M. Wakita, H. Nagata* 17:45-18:00 OS4-14 Investigation of Key Parameters Influence on Heat Transfer of Subcooled Liquid Oxygen Flowing in a Horizontal Thin Tube under High Heat Flux Conditions *K. Tanaka , K. Matsui, K. Kitagawa* 18:00-18:30 Round table	17:00-17:30 OS8-9 **Invited** Changes Induced by Atmospheric Plasma Irradiation in the Response of Red Blood Cells to Hypotonic Stress *T. Yano , K. Kudo, Y. Shiraishi* 17:30-18:00 OS8-10 **Invited** Multimodal Inverse Modeling Based on Electrohydrodynamics for Interpreting Cell Dielectric Properties *C. J. S. Liu, Y.-L. Tsai, H.-Y. Wang* 18:00-18:15 OS8-11 Distance-programmable Coaxial Capillary Device for Versatile Microfluidic Applications *S.-C. Tang , C.-H. Dylan Tsai* 18:15-18:30 OS8-12 Electrical Characteristics of Water High-speed Nanodroplet Impacts *J.-S. Lee , T. Sato, Y.-C. Cheng, T. Sugimoto, T. Nakajima, S. Liu*	17:00-17:20 OS19-8 Results of Experimental Studies and Modeling Concerning the Asymmetry of Liquid Film Thickness for Different Tube Diameters *A. I. Nowak , T. Duraziński, D. Tsuneoka, J. Okajima* 17:20-17:40 OS19-9 Thermal Performance of Boron-Based Nanofluid in a Battery Thermal Management System *B. Kursuncu , A. Ustaoglu, F. Yıldız, J. Okajima*	17:00-17:20 OS14-5 Predictive Therapeutic Response Optimization in Colorectal Cancer Patient-Derived Organoids under Controlled Oxygen *M. Roinard , S. Aratake, K. Funamoto, N. Aznar, J.-P. Rieu* 17:20-17:40 OS14-6 Evaluation of Resistance to Cell Death in Breast Cancer Cells Using a Metastatic Tumor Model *Y. Iijima , G. Hayase, D. Yoshino* 17:40-18:00 OS14-7 Agarose-based Microwells for 4D Analysis of Colorectal Tumor Spheroids Under a Depleted Nutrient Environment *J. Codevelle , C. Poignard, C. Rivière, E. Bastien* 18:00-18:20 OS14-8 Study of the Mechanical Environment of Endometrial Cancer Tumors Using Microelastography *D. Malaury , G. Sibylle, D. Victor, P. Charles-André, S. Ballesta, R.-C. Isabelle, D. Alpha, N. Goeffrey, R. Charlotte, B. Axelle, C. Stefan* 18:20-18:40 OS14-9 Establishing a Living Biobank of Pediatric High-Grade Glioma and Ependymoma Suitable for Cancer Pharmacology *C. Deligne , A. Tourbez, F. Bénard, S. Meyer, A. Curt, M. Gianesello, M. Hamadou, L. Clavier, C. Coquet, C. Bocquet, J. Tomine, T. Diot, H. Paraqindes, V. Marcel, C. Berthelot, J. Engel, I. Rochet, M. Barritault, C. Savary, N. Gadot, V. Attignon, M. Carrere, M. Billaud, A. Dutour, M. Cordier-Bussat, P.-A. Beuriat, A. Szathmari, F. Di Rocco, J.-Y. Blay, L. Tiberi, A. Vasiljevic, D. Meyronet, M. Castets, P. Leblond, L. Broutier*	17:00-17:15 OS12-10 Numerical Study of Flow Boiling in Elliptical Microchannels with Fixed Perimeter: Effects of Geometry and Mass Flow Rate *C.-W. Lin , T.-R. Shiu, T.-Y. Chiu, H.-Y. Hsu* 17:15-17:30 OS12-11 Investigation of the Effect of Thermal Via Design on the Heat Transfer Efficiency of PCBs *T.-Y. Hsu , S.-Q. Ding, C.-T. Hsu, H.-Y. Hsu, H.-C. Tang, Y.-M. Meng* 17:30-17:45 OS12-12 Flow and Heat Transfer Characteristics of Finite Prisms Under Mixed Convection Regimes *C.-Y. Su , C.-G. Li* 17:45-18:00 OS12-13 Thermal-Fluid Analysis of Heat Sink Arrays with Varied Fin Geometries Using Numerical Methods *C.-S. Liu , C.-G. Li, Z.-L. Lin* 18:00-18:15 OS12-14 Design of Daytime High Temperature Cooling Chamber using Passive Radiation Technique *S. K. Samudi , Y.-F. Lee, J.-Y. Chang* 18:15-18:30 OS12-15 Deep Learning Applications in Pool Boiling Image Analysis *C.-C. Hsieh , Y.-C. Lin*	17:00-17:20 OS24-8 Molecular Insights into the Adsorption Behavior of PFAS on Montmorillonite, Polyethylene, and Polypropylene: A Molecular Dynamics Study *Q. Wang, R. Xu , F. Zha, L. Xu, B. Kang, H. Han* 17:20-17:40 OS24-9 Friction Control of Tread Rubber under Lubrication by Controlling Fluid Flow at the Contact Interface *A. Ishizako , A. Nishimoto, T. Nishi, T. Yamaguchi*	18:30
	BREAK										
18:45	EX-Hall-3B										18:45
19:45	Students / Young Birds Friendship Night @ EX-Hall-3B, Exhibition Bldg.										19:45

Tuesday, November 11, 2025

EX-Hall-1A

OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals

Chair: T. Akiba

9:00-9:18 OS2-14
Stability Modes of Non-Premixed Flames Formed on a Slot Burner with Low Reynolds Number Flows
C.-K. Huang , T. Tomidokoro, J. Hayashi, T. Sako, H. Kawanabe

9:18-9:36 OS2-15
Numerical Simulations on Premixed Methane-air Flame Propagation under Electric Fields in a Hele-Shaw Chamber
Z. Zhang , X. Kang

9:36-9:54 OS2-16
Road Tunnel Fire Simulations Using a Combustion Reaction Model
S. Nemoto , K. Seo, K. Takahashi, T. Chihara

9:54-10:12 OS2-17
Investigation on the Combustion Behavior of Young Conifer Trees
S. Suzuki , S. L. Manzello

10:12-10:30 OS2-18
Numerical Study on Flame Behaviors in a One-Step Sudden-Expansion Tube
I-L. Lin , T.-H. Chuang, S.-Y. Hsu

EX-Hall-1B

EX-Hall-3A

OS5: Advanced Applications of Multi-functional Fluids

Plasma Flow
Chair: H. Takana

9:20-9:50 OS5-13 **Invited**
Study on Performance Characterization and Physical Mechanism on Dielectric-Barrier-Discharge Plasma Synthetic Jet Actuator
H. Nishida , I. Fukumori, Y. Ishii, A. Komuro

9:50-10:10 OS5-14
Assessment of a Shock-Based Flow Reconstruction Method in Supersonic Plasma Jets via CFD
Y. Yang , M. W. Song, H. You, J. G. Kim, J.-H. Seo

10:10-10:30 OS5-15
A Convertible Plasma Torch with Hollow Electrodes and Reverse Polarity Discharge Structure
S.-Y. Baek , N.-G. Lee, D.-H. Lee, S.-W. Kim, J.-H. Seo

EX-Hall-3B

OS27: The 21st International Students / Young Birds Seminar on Multi-scale Flow Dynamics

Poster Session IV
OS27-50 - OS27-64

Keywords:
Bioengineering, Electrodynamics, Measurement, Control Engineering, AI etc.

EX-1

OS7: Advances in Simulation Techniques for the Computational Aerosciences

Chair: T. Haga

9:00-9:20 OS7-1
Study on Aerodynamic Approximation for Aeroelastic Analysis
N. Okubo , N. Morita, T. Tsuchiya

9:20-9:40 OS7-2
Application of Deep Koopman Operator Theory to Fluid-Structure Interaction
K. Marumoto , Y. Kawano, C. Lee, Y. Abe

9:40-10:00 OS7-3
Analysis of Fluid-Structure Interaction Using Residual Force Stabilization
H. Asanoumi , Y. Kawano, C. Lee, Y. Abe

10:00-10:20 OS7-4
Fourier Neural Autoencoder for Modal Analysis in Fluid Flows
K. Zakaria, H. R. Akhmad, M. A. Yuono, P. S. Palar , J. Morlier, L. R. Zuhal

EX-2

OS8: Advanced Physical Stimuli and Biological Responses: Promotion of Collaborative Research

Chair: C.H. Dylan Tsai

9:00-9:30 OS8-13 **Invited**
Study on Microbial State Changes Caused by PEF Application
T. Tanino

9:30-10:00 OS8-14 **Invited**
Atmospheric-Pressure Plasma Jet for Transdermal Drug Delivery and Diamond Surface Function Alization
A. Sung, C.-Y. Chen, H.-H. Weng, J.-H. Jhang, W.-Y. Woon, Y.-C. Cheng

10:00-10:30 OS8-15 **Invited**
Exploring the Characteristics and Biomedical Applications of Charged Cavitation
S. Liu , T. Sato, O. Supponen, M. Farhat, T. Nakajima

10:30-10:45 Award Ceremony & Closing
K. Tachibana & H. Y. Wang

EX-3-A

OS20: Multiphysics in Fluid Mechanics

Dynamics of multiphysics flows 1
Chairs: Y. Inada & H. Muneoka
Chair: M. Shigeta

9:15-9:30 OS20-1
Proposal of an Instability Evaluation Method for a Liquid Jet Model Using Surface Texture
A. Minami , S. Nakashima, Y. Mawatari, M. Yamamura, Y. Saito

9:30-9:45 OS20-2
Flow Visualization and Acoustic Characteristics of Underexpanded Jets from a Tabbed Convergent Nozzle
A. Sung, C.-Y. Chen, H.-H. Weng, J.-H. Jhang, W.-Y. Woon, Y.-C. Cheng

9:45-10:00 OS20-4
Temperature-Driven Leaching of Lithium Cobalt Oxide Black Mass: Experimental Insights and Pore-Scale Lattice Boltzmann Modeling
J. Restrepo-Cano , E. Colleoni, E. di Pieri, P. Guida, W. L. Roberts

10:00-10:15 OS20-3
Carbon Dioxide Driven Precipitation of Lithium Carbonate in a Bubble-Column Reactor
E. Colleoni , J. Restrepo Cano, P. Guida, W. L. Roberts

10:15-10:30 OS20-5 **Invited**
Generation of Pulsed Discharges over Water Surface and Their Applications for Environment and Agriculture
K. Takahashi , K. Takaki

EX-3-B

OS6: Free Flight Experiment with MSBS and Ballistic Range

Chair: K. Seo

9:00-9:30 OS6-1 **Invited**
Studies of Tumbling Bluff Bodies at Low Speeds
C. P. Britcher , C. Hull, M. Schoenenberger, H. Shehata

9:30-9:50 OS6-2
Free-motion Wind Tunnel Testing of Lifting Capsules with Different Inertia Moments
N. Kurosawa , K. Ueno, Y. Takeda, K. Asai, M. Kikuchi, H. Nagai, T. Ikami, Y. Sasaki

9:50-10:10 OS6-3
Dynamic Stability of a Family of Earth Entry Vehicles using the Magnetic Suspension Dynamics Tunnel
C. Hull , C. Britcher, H. Shehata, M. Schoenenberger

10:10-10:30 OS6-4
Investigation of Dynamic Instability for Hayabusa-type Reentry Capsule Using 1-m Magnetic Suspension and Balance System
Y. Sasaki , H. Okuizumi, T. Ikami, H. Nagai

EX-4-A

OS12: Complex Thermofluid System

Complex Fluid Flow
Chair: Y.-H. Liao

9:00-9:25 OS12-16
Effects of Phase Separation in a Viscously Stable Hele-Shaw Flow
C.-Y. Chen , P. Verma

9:25-9:40 OS12-17
Numerical Simulation of the Effect of Fluid Miscibility on Natural Convection in Porous Media Flow Fields
Y.-A. Chen, L.-Y. Huang , C.-Y. Chen

9:40-9:55 OS12-18
Three-Dimensional Effects and Pattern Rupture of Viscous Fingering
J.-J. Mao , C.-Y. Chen

9:55-10:10 OS12-19
DSMC Simulation of Rarefied Aerodynamic Effects on Deployable Drag Sails for CubeSat Deorbit
W.-J. Guo , M.-C. Lo

10:10-10:25 OS12-20
Effects Of Natural Convection On Magnetohydrodynamic Bubbly Jet
M.-H. Lu, H.-J. Guo , C.-Y. Chen

EX-4-B

OS31: Japan-South Africa Bilateral Workshop

Japan-South Africa Bilateral / Sakura Science Workshop 1
Chair: A. Komiya

9:00-9:30 OS31-1 **Invited**
Molecular Dynamics Simulation of Hydroxide Transport and Stability in Polyfluorene-based Anion Exchange Membranes Functionalized with Hexamethylenediamine
T. R. Maumau, T. T. Letsau, N. W. Maxakato, T. Mabuchi, P. F. Msomi

9:30-9:45 OS31-2
Evaluation of the Effect of Ultrasound-Induced Bubbles in Biological Tissue for the Purpose of Suppressing Light Scattering
T. Tani , A. Komiya

9:45-10:00 OS31-3
Investigation of the Effect of Ultrasound Combined with PhotoElectroCatalysis on $ZnFe_2O_4$ Doped with Gold as a Piezo-Photo Anode for the Removal of Ciprofloxacin in Water
T. I. Sebokolodi , D. S. Sipuka, K. D. Jayeola, O. A. Arotiba

10:00-10:15 OS31-4
A Perovskite/Spinel Structured $LaFeO_3/Co_3O_4$ Heterojunction for Photoelectrocatalytic Applications in Degradation of Tetracycline and Water Splitting
G. P. Ndima , O. V. Nkwachukwu, O. A. Arotiba

10:15-10:30 OS31-5
The Timing of Immune Checkpoint Inhibitor Administration via The Lymphatic Drug Delivery System Afficeres Inhibition of Metastasis, Particularly when Combined with Docetaxel
A. Sukhbaatar , S. Mori, K. Kodama

COFFEE BREAK @ EX-Hall-3B

EX-Hall-1A

OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals

Chair: S. Suzuki

10:45-11:15 OS2-19 **Invited**
Incompletely Stirred Reactor Low-Order Modelling for Gas Turbine Combustors
H. S.A.M. Awad, B. Harikrishnan, S. Gkantonas, E. Mastorakos

11:15-11:33 OS2-20
Quantitative Measurement of Temperature using Two-Line Atomic Fluorescence (TLAF) in a Reactive Flow Impinging a Wall
A. Blondel , A. Vandel, S. Idlahcen, R. Benadjaoud, G. Godard, F. Grisch, P. Xavier

11:33-11:51 OS2-21
Local Principal Component Transport for Reduced-order Reacting Flow Simulations
R. Malik , F. E. Hernández-Pérez, H. G. Im

11:51-12:09 OS2-22
Combustion Modeling and Analysis of a Micro Gas Turbine with Biofuels
M. Ihsan , H.-Y. Shih, I. B. Suryo

EX-Hall-1B

OS15: Turbulence: from Fundamentals to Applications

Noise & Bluff Body
Chair: N. Yokoi

10:45-11:05 OS15-10
The Sound-Vortex Feedback Loop under Wing-in-Ground Effect
L. Tan , Y. Hattori

11:05-11:25 OS15-11
Effects of Grooved Nozzle on Underexpanded Jet Structure and Screech Tones
R. Sakai , S. Nakao, Y. Miyazato

11:25-11:45 OS15-12
Numerical Analysis and Wind-tunnel Experiment on the Flow around a 5:1 Rectangular Cylinder Moving near the Ground at Re = 6700
R. Tominaga , Y. Kichise, K. Hirata

11:45-12:05 OS15-13
LES of Flow around a Longitudinal Square Cylinder Moving near the Ground
M. F. Rathore , Y. Mitamura, K. Matsuno, T. Inoue, K. Hirata

EX-Hall-3A

OS5: Advanced Applications of Multi-functional Fluids

EHD/MHD
Chair: N. Takeuchi

10:45-11:05 OS5-16
Experimental Demonstration of Detonation-Driven MHD Power Generation with Potassium Chloride Seeding
K. Noda , A. Kawasaki

11:05-11:25 OS5-17
Numerical Simulation of Taylor-Couette Flow in a Co-axial MHD Energy Conversion Device
T. Hasebe , K. Namba, T. Fujino, H. Takana, H. Kobayashi

11:25-11:45 OS5-18
Development of Air Pressure Control System which Applied the EHD Pump
H. Murata , S. Terasaka, T. Shimoohkawa, A. Nagatsuma, H. Anzai, K. Mitsui

11:45-12:05 OS5-19
Influence of Droplet Conductivity and Pulse Voltage Polarity on Electrostatic Precipitation
T. Hatakeyama , K. Takahashi, K. Takaki, A. Zukeran, S. Tsuge, M. Nonoyama, Y. Hayashi

EX-Hall-3B

EX-1

OS7: Advances in Simulation Techniques for the Computational Aerosciences

Chair: F. D. Witherden

10:45-11:05 OS7-5
Unsteady Aerodynamic Characteristics of a Thin Elastomeric Membrane Wing by Fluid-Structure Interaction Analysis
K. Funada , H. Osaki, Y. Chikamoto, T. Kimura, D. Sasaki, K. Fujita, M. Okamoto, Y. Kawamoto, S. Takahashi, T. Ikami, H. Nagai

11:05-11:25 OS7-6
Simulation of Axisymmetric Bodies at High Angle of Attack with an Optimized Rotation-Curvature Correction in the kω-SST Model
B. Park , J. Park, J. S. Park, S. Lee

11:25-11:45 OS7-7
Numerical Simulation Study of Aerodynamic Parameters for Tailless Aircraft Configuration
W.-J. Leung , Y.-C. Liu, H.-S. Yang, R.-S. Hsu

11:45-12:05 OS7-8
Numerical Investigation of High-lift Aerodynamic Configuration for Twin-Tail UAV Design Applications
Y.-C. Liu , J.-C. Lin, H. -S. Yang, W.-J. Leung, R.-S. Hsu

EX-2

EX-3-A

OS20: Multiphysics in Fluid Mechanics

Dynamics of multiphysics flows 2
Chair: M. Shigeta
Chairs: H. Komen & Y. Saito

10:45-11:15 OS20-6 **Invited**
Zero-defect Printing with DED-GMA via Adaptive Controls
G.-F. Gottschalk, P. K. Chaurasia, S.-F. Goecke

11:15-11:30 OS20-7 **Invited**
Electron Energy Transport Process in Weakly Ionized Gases and Its Application to Arc Interruption
N. Kodama

11:30-11:45 OS20-8
Large Eddy Simulations of an Inverted Umbrella Aerator Using Smoothed Particle Hydrodynamics
M. Hirota

11:45-12:00 OS20-9
Numerical Investigation Of Two-Fluid Magnetohydrodynamics Flow In Channels With Heat Flux
A. Sinha, S. Gopalakrishnan , S. Unni, U. Bhandarkar, K. Bodi

EX-3-B

OS6: Free Flight Experiment with MSBS and Ballistic Range

Chair: H. Nagai

10:45-11:05 OS6-5
Experimental Investigation of Afterbody Geometry Effects on Dynamic Instability of Atmospheric Entry Capsule in Transonic Regime
J. Kim , M. C. Engin, B. J. Lee, H. Nagai

11:05-11:25 OS6-6
Comparison of Dynamic Stability of New Re-entry Capsule in Low Altitude Free-Flight Test at Different Flight Processes
H. Yoshimoto , T. Ikami, K. Takahashi, H. Takayanagi, K. Yamada, H. Nagai

EX-4-A

OS12: Complex Thermofluid System

Flow Analysis and Measurement
Chair: M.-C. Lo

10:45-11:00 OS12-21
A Rapid Design Method for Low-Specific Speed Centrifugal Pump Impellers Based on Deep Learning
J.-Y. Chiou ,Y.-H. Liu, L. M. Wright

11:00-11:15 OS12-22
Wind Tunnel Flow Measurement under Ambient and High-Temperature Conditions Using Multi-Hole Probe
H.-W. Hou , T.-W. Chiu, Y.-H. Liu

11:15-11:30 OS12-23
Enhanced Pool Boiling Performance via Variation of Helical Wire Pitch
C.-K. Wang , Y.-T. Huang, C.-W. Lo

11:30-11:45 OS12-24
Application of the Maxwell-Garnett Effective Dielectric Model in Inorganic Filler–Polymer Composite Systems: From Theoretical Derivation to Optical Behavior Simulation
C.-H. Wu , J.-Y. Chang

11:45-12:00 OS12-25
A Novel Particle Tracking Algorithm for Event Camera Based on Modified Hough Transform
C.-C. Hsu , W.-H. Tien

12:00-12:15 OS12-26
Flow Visualization of The Effect of Acoustic Mesh in A Channel with A Sound Speaker
H. S. Maulana, M. R. Sudarsana , Y.-Y. Lin, L. Chen, W.-H. Tien

EX-4-B

OS31: Japan-South Africa Bilateral Workshop

Japan-South Africa Bilateral / Sakura Science Workshop 2
Chair: P. Msomi

10:45-11:00 OS31-6
Smart Multifunctional Nanocarriers for Targeted Antibiotic Delivery: A Triple-Action Approach to Sepsis Management
R. Mautsoe, E. A. Ismail , C. A. Omolo, G. Elamin, J. Govender, M. A. Gafar, T. Govender

11:00-11:15 OS31-7
Comprehensive Analysis of the Impact of Solvent Osmolarity and Viscosity on Lymph Node Pharmacokinetics and the Surrounding Environment in Lymphatic Drug Delivery System
T. Shimano , A. Sukhbaatar, S. Mori, T. Kodama

11:15-11:30 OS31-8
Exploring the Antibacterial and Antitumor Activities of Bioactive Constituents Secreted by Bacterial Endophytes Isolated from *Alectra sessiliflora*
M. P. Maela , M. H. Serepa-Dlamini

11:30-11:45 OS31-9
Pharmacokinetic Modeling of a Lymphatic Drug Delivery System Targeting Clinically Occult N0 Lymph Nodes
R. Miyazaki , A. Sukhbaatar, S. Mori, T. Kusaka, K. Katagiri, T. Sugiura, T. Kodama

12:15										11:45-12:00 OS31-10 Electrochemical Detection of Nicotine in Hookah Smoke Using a Graphene-PEDOT: PSS/Nitrogen-Doped Carbon Nanosheet/Screen-Printed Carbon Electrode Sensor *S. Makaluza , F. O. G. Olorundare, B. N. Zwane, D. Nkosi, O. A. Arotiba* 12:00-12:15 OS31-11 Targeted Treatment of Metastatic Lymph Nodes via Lymphatic Drug Delivery System of a HDAC/PI3K Dual Inhibitor *E. Tada , A. Sukhbaatar, S. Mori, K. Saijo, C. Ishioka, H. Kawakami, T. Sugiura, T. Kodama*	12:15
	LUNCH BREAK / Women-in-Flow Dyanamics@EX-2, Exhibition Bldg.									
13:30	EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B	13:30
	OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chairs: Z. Chen & Y. Morii*	**OS15: Turbulence: from Fundamentals to Applications** Coherent Structures *Chair: Y. Hattori*	**OS5: Advanced Applications of Multi-functional Fluids** Functional Flow in Material Process 3 *Chair: T. Fujino*	**OS28: IFS Collaborative Research Forum (AFI-2025)** *Chair: I. Oshima*	**OS7: Advances in Simulation Techniques for the Computational Aerosciences** *Chair: Y. Abe*		**OS19: Multiphase Thermal Fluid Flow and Its Interface Dynamics** *Chair: M. Shirota*	**OS10: Two-Phase Thermal Control Technology** *Chair: H. Nagai*	**OS12: Complex Thermofluid System** Computational Fluid Dynamics II *Chair: C.-Y. Chen*	**OS31: Japan-South Africa Bilateral Workshop** Japan-South Africa Bilateral / Sakura Science Workshop 3 *Chair: T. Kodama*	
	13:30-13:50 OS2-23 Canceled 13:50-14:10 OS2-24 Canceled 14:10-14:30 OS2-25 **Invited** Numerical Simulation of Two-phase Detonation in a Reactive Particle-laden Flow using Compressible Multiphase Particle-in-cell Method *J. He, B. Meng, B. Tian, J. Li* 14:30-14:50 OS2-27 **Invited** Rayleigh Flow as a Platform for Examining General Behaviors of 1D Reactive Flows: From Theoretical Prediction to Stable Realization of Weak Detonations *Y. Morii , K. Maruta*	13:30-13:50 OS15-14 Hierarchy of Coherent Vortices in Wall Turbulence using Numerical Simulation and Experimental Data *Y. Motoori , P. Bragança, S. Goto* 13:50-14:10 OS15-15 Turbulent Transport Characteristics of Coherent Structures in Ideal Vegetation Morphology Based On Wind Tunnel Experiments *G. Chen , F. Li, L. Yan, S. Liu, C.-H. Liu, Z. Mo* 14:10-14:30 OS15-16 On the Effect of Navier Slip Length on Turbulent Transport in the Wake behind a Square Prism *M. Wang , Y. Ito* 14:30-14:50 OS15-17 Experimental Study on the Effect of Microbubbles on Large-Scale Turbulent Structures in Pipe Flow *X. Wu , Y. Hamana, M. Nishikawara, Y. Tsuji*	13:30-13:50 OS5-20 Preparation of Spherical Titanium Powders by Using a DC Plasma Torch with Hollow Electrodes and Reverse Polarity Discharge Structure *S.-W. Kim , D.-H. Lee, S.-Y. Baek, N. -G. Lee, S.-Y. Yang, J.-H. Seo* 13:50-14:10 OS5-21 Synthesis of Carbon Catalyst with Large Surface Area Using Liquid Plasma with Ultrasonic Cavitation *H. Ota , A. Shigematsu, M. Kodama, O. L. Li, N. Takeuchi, H. Takana* 14:10-14:30 OS5-22 Flow-Induced Reactivity Amplification in a CuS/ZnS/SnS-Based Sonocatalytic Interface for Aqueous Pollutant Degradation *K. P. Sharma, M. Shin , T.-K. Kwon, M.-Y. Kim, C. Yu* 14:30-14:50 OS5-23 Sonic Resonance for Polymer Synthesis *A. Tokutake , H. Nakamura, H. Goto*	13:30-15:00 **Short Oral Presentation** CRF-1 - CRF-26	13:30-13:50 OS7-9 Reduced Order Modeling of Turbulent Channel Flow Undergoing Wavy Walls *M. Brockhaus , A. Sescu* 13:50-14:10 OS7-10 Fluid-Structure Interaction Analysis based on Control Theory *C. Lee , T. Yamazaki, Y. Kawano, Y. Abe* 14:10-14:30 OS7-11 Machine Learning-Based Surrogate Modeling for Fluids Engineering Simulation and Design *K. Shimoyama , R. Saito, S. Yoshida* 14:30-14:50 OS7-12 Machine-learning-based Informative Mode Analysis for Separated Airfoil Wakes *K. Fukami , R. Araki*		13:30-13:50 OS19-10 Pressure Estimation of Acoustic and Shock Waves through Calibrated Schlieren Imaging *G. Vicziconte , P. Guida, T. T. Truscott, W. L. Roberts* 13:50-14:10 OS19-11 Bubbly Shock Waves Characterization in Aerated Cavitating Flows in Water and Dodecane via Computer Vision Tools *E. Zur , I. Gluzman* 14:10-14:30 OS19-12 Is There a Chance to Absorb Atmospheric Moisture for an Evaporating Methanol Drop? *A. K. Mannem, D. K. Mandal* 14:30-14:50 OS19-13 Visualization Investigation of the Methanol/Diesel Spray-To-spray Impingement Characteristics *Y. Zhang , Z. Zhang, D. Dong, G. Li, X. Xie*	13:30-13:50 OS10-1 Characterization of Temperature Controllability of Loop Heat Pipe with Electrohydrodynamic Pump *M. Nishikawara , T. Miyakita* 13:50-14:10 OS10-2 Development of a New Seal System of Turboexpander for Hydrogen Liquefiers *N. Nakamura , Y. Miyamoto* 14:10-14:30 OS10-3 Design and Experimental Demonstration of a Nitrogen-Charged Loop Heat Pipe for a Cryogenic Passive Cooler *H. Hamano , K. Odagiri, A. Gomi, H. Ogawa* 14:30-14:50 OS10-4 Numerical Analysis of Heat Transfer Phenomena in a Meander-Shaped Low-Fill Heat Pipe *A. Hatamoto , K. Fumoto, H. Nagai*	13:30-13:45 OS12-27 Physics-Informed Neural Network-Based Optimization Method for Pneumatic Systems *Y.-H. Chan , H.-C. Chang, W.-H. Wang* 13:45-14:00 OS12-28 Optimization Design of Airfoils by Genetic Algorithm and Computational Fluid Dynamics *Z.-H. Yu , P.-C. Chuang, W.-H. Wang* 14:00-14:15 OS12-29 The Investigation of Wind Turbine Aerodynamics by 6-DOF motion and Immersed Boundary Method *Y.-T. Liu , C.-W. Tsao, W.-H. Wang* 14:15-14:30 OS12-30 Scalable Multi GPU CFD Simulations of High Rayleigh Number Natural Convection on Large Circular Heated Plates *H.-C. Chang , W.-H. Wang* 14:30-14:45 OS12-31 Turbulent Mixed Convection with Oppositely Heated Plates Using Implicit LES *P.-L. Hou , C.-G. Li* 14:45-15:00 OS12-32 A CFD Study on the Effects of 2D Patterned Superbifilic Heated Surfaces on Pool Boiling Heat Transfer *S.-M. Huang , J.-Y. Zhang, Y.-C. Lin*	13:30-13:45 OS31-12 A Label-Free TB Test Using Electrochemiluminescence As The Transducer *M. Cox , S. F. Douman, E. I. Iwuoha* 13:45-14:00 OS31-13 Efficacy of Radioimmunotherapy for Metastatic Lymph Nodes without Site-Specific Identification *R. Suzuki , W. S. Aulia, T. Shimano, A. Sukhbaatar, S. Mori, T. Kodama* 14:00-14:15 OS31-14 Dendrimer – Gold Nanocomposite-Based Electrochemical Aptasensor for the Detection of Dopamine *D. S. Sipuka , F. O. G. Olorundare, S. Makaluza, N. Midzi, T. I. Sebokolodi, O. A. Arotiba, D. Nkosi* 14:15-14:30 OS31-15 The Evaluation of Histopathology Related to Treatment Efficacy of Docetaxel Treatment by LDDS for Lymph Node Metastasis *W. S. Aulia , K. Kanon, A. Sukhbaatar, S. Mori, T. Sugiura, T. Kodama* 14:30-14:45 OS31-16 Electrochemical Detection of Paracetamol in Wastewater Using an Exfoliated Graphite-CuInSe/ZnS QDs Electrode *P. S. Silinda , T. I. Sebokolodi, O. S. Oluwafemi, O. A. Arotiba*	
15:00	COFFEE BREAK @ EX-Hall-3B										15:00

Tuesday, November 11, 2025

15:15

EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chairs: Z. Chen & Y. Morii*	**<Joint Session> OS15: Turbulence: from Fundamentals to Applications & OS23: Aerospace Heat, Fluid Engineering, and Mathematical Physics: Nonlinear Dynamics and Stochastic Processes with JST CREST** *Chair: A. Yakeno*	**OS5: Advanced Applications of Multi-functional Fluids** Advanced Multiphase Flow 2 *Chair: H. Kobayashi*	**OS28: IFS Collaborative Research Forum (AFI-2025)**	**OS7: Advances in Simulation Techniques for the Computational Aerosciences** *Chair: K. Otsuka*	**OS13: Flow and Energy** *Chair. T. Yamagata*	**OS19: Multiphase Thermal Fluid Flow and Its Interface Dynamics** *Chair: K. Hasegawa*	**OS10: Two-Phase Thermal Control Technology** *Chair: M. Nishikawara*	**OS12: Complex Thermofluid System** Fluid Mechanics Applications II *Chair: C.-Y. Chen*	**GS: General Session** High-Energy Reactive and Rarefied Flow Modeling *Chair: T. Ikami*
15:20-15:40 OS2-26 **Invited** Initiation of Oblique Detonation Wave with Incoming Boundary Layer *X. Shao, Z. Zhang* 15:40-16:00 OS2-28 **Invited** Re-Interpretation of Flame Structure Based on Flow Fields *K. Matsue , Y. Morii* 16:00-16:20 OS2-30 **Invited** Numerical Study on Detonation Initiation by Multiple Hot Spots *J. Sun, Z. Chen* 16:20-16:38 OS2-31 1D DNS on Shock Formation and Detonation Transition Triggered by Reaction Wave Speed Exceeding the Subsonic CJ Speed *H. Okada , Y. Morii, A. Tsunoda, K. Maruta*	15:15-15:35 OS15-18 Spectral Proper Orthogonal Decomposition of Coherent Structure and Energy Transfer in Urban Convective Boundary Layers *L. Yan , K. Zhou, G. Chen, C.-H. Liu* 15:35-15:55 OS15-19 / OS23-1 Study on Laminar-Turbulence Transition Process in Supersonic Boundary Layer Based on Variational Mode Decomposition and Optimal Perturbation Analysis *N. Taniguchi , A. Yakeno* 15:55-16:15 OS15-20 / OS23-2 Large Eddy Simulations on Heat Flux Characteristics of Apollo-shaped Capsule *K. Inokuma , A. Yakeno, B. Ridolfi, S. Yatsuyanagi, H. Tanno*	15:15-15:35 OS5-24 Scalable and Sustainable Production of High-Performance Bio-Based Fibers *A. B. Dichiara , D. D. Edmundson, W. Hira, Y. Kaneko, H. Takana* 15:35-15:55 OS5-25 Single Particle Sensing Enhanced by the Combination of Electrostatic Force and Pressure–Driven Flow *S. Ochi , T. Kishimoto, K. Doi* 15:55-16:15 OS5-26 Modification of Suppressed Heat Transfer of Viscoelastic Fluid Flow in Rectangular Duct with 2 of Aspect Ratio *T. Kadowaki , M. Motozawa, M. Fukuta, W. Rakpakdee, W. Chaiworapuek* 16:15-16:35 OS5-27 Change in Drag Reducing Effect and Rheological Property of Surfactant Solution by Adding Cellulose Nano-fiber *M. Motozawa , Y. Ueda, H. Takana*	15:15-16:15 **Poster Presentation** CRF-1 - CRF-26	15:15-15:35 OS7-14 Flexible Wing Simulation and Experiment Using Magnetic Suspension and Balancing System *K. Shimura , Y. Abe, K. Otsuka* 16:00-16:45 OS7-13 **Invited** Aviation Turbulence and Climate Change *R. Palacios*	15:15-15:30 OS13-1 Hydrodynamic Losses in Different Sections of Cross-Flow Turbine *Y. Kitagawa , Y. Kuroda, S. Iio* 15:30-15:45 OS13-2 Experimental Study on the Effect of Nozzle Outlet Angle on Submerged Impulse Turbine Performance and Noise *Y. Kondo , A. Gogo, T. Nendai, S. Iio, M. Kaneko, M. Terada, Y. Kawaguchi* 15:45-16:00 OS13-3 Effects of Nozzle Diameter and Number of Buckets on Micro Pelton Turbine Performance *I. Nozawa , C. Muramatsu, G. Katagiri, Y. Suetsugu, T. Ishikawa, Y. Noda, S. Ishin, T. Ishikawa, S. Iio* 16:00-16:15 OS13-4 Relationship Between the Performance of Waterfall Cross-Flow Hydraulic Turbine and Waterfall Flow Conditions *K. Moriya , T. Yamagata, N. Fujisawa* 16:15-16:30 OS13-5 Unsteady Energy Analysis of Cavitation Surge Suppression in a 3D Cavitating Inducer with Feedback Control *T. Onuma , A. Kiyama, T. Ikeda, B. An, M. Nohmi, D. Kang*	15:15-15:35 OS19-14 Experimental Investigation of Drops Gyrating on Heated Surfaces with Asymmetric Wettability *H. Kurita , T. Okabe* 15:35-15:55 OS19-15 Condensation-Induced Non-Contact Bouncing Failure *G. Deschasaux, J. Shen, Y. Serata, M. Tenjimbayashi, T. Mouterde* 15:55-16:15 OS19-16 Evaluation of Viscous Dissipation with Rim Development in Drop Impact *T. Kishi , T. Yamaya, T. Miyagawa, M. Shirota* 16:15-16:35 OS19-17 Dominant Role of Solid Particles in Drop-Impact Heat Transfer *T. Sakurai , K. Kudo, M. Shirota, T. Okabe*	15:15-15:35 OS10-5 Local Heat Transfer during Evaporative Flow in a Plate Heat Exchanger with Thin Plates *T. Hirokawa* 15:35-15:55 OS10-6 Effect of Multi-Channel Interaction on Boiling Characteristics in Two-Phase Microjet Cooling *S. Oshima , S. Murakami, T. Shoyama, N. Higuchi, H. Sakai, K. Kinefuchi* 15:55-16:15 OS10-7 Flow Boiling Heat Transfer of Refrigerant HFC-245fa in Microchannel Cold Plate with Stepped Channel Height *Z.-L. Jiang , C.-Y. Yang*	15:15-15:30 OS12-33 Advanced Design of Methanol Preparation System by Biomass High-temperature Steam Gasification *P. Wang , X. Zou, C. Gu, Y. Zhang, M. Zhai* 15:30-15:45 OS12-34 Theoretical Derivation of Flow and Acoustic Fields in Nozzles with Different Gases under the Linearisation Equation of State *D. Wang , J. Li* 15:45-16:00 OS12-35 Development of an Aerodynamic Stability Module for the Preliminary Design of a Launch Vehicle *Y.-F. Cheng , C.-Y. Chen, Y.-K. Peng, Y. Lee*	15:15-15:33 GS1-6 CFD Simulation of Methane-Hydrogen Combustion and NO Emissions *K.-L. Li , C.-C. Tseng, Y.-Z. Chen, M.-H. Wu, C.-J. Li, W.-D. Hsieh* 15:33-15:51 GS1-7 Kinetic Simulation of Plasma Dynamics for the Development of an Air-Breathing Electric Propulsion System *K. Sakamoto , M. Takahashi, K. Ito* 15:51-16:09 GS1-8 Particle Simulation on Energy Transport and Thrust Generation for Laser-plasma-driven Explorer for UNtouched low Altitude (LUNA) in a Rarefied Environment *S. Uno , M. Takahashi* 16:09-16:27 GS1-9 Experimental Study on Particle and Gas Dynamics in a Simulated Volcanic Eruption using Schlieren Image Velocimetry *A. Kaneko , K. Seo, K. Ohtani, K. Tsunematsu, N. Steinau, T. Tomizawa* 16:27-16:45 GS1-10 Influence of Separation Distance on Temperature Distribution and Velocity Field Dynamics in Multiple Fire Source Arrays *O. Eissa, M. Behnia , M. Ghodrat*

16:45

COFFEE BREAK @ EX-Hall-3B

17:00

EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chair: C. Rousselle*	**OS16: Vortex Motion** Vortex & Instability *Chair: Y. Hattori*	**OS5: Advanced Applications of Multi-functional Fluids** Netoworking	**OS28: IFS Collaborative Research Forum (AFI-2025)**	**OS7: Advances in Simulation Techniques for the Computational Aerosciences** *Chair: K. Otsuka*	**OS13: Flow and Energy** *Chair: S. Iio*		**OS14: Innovations in Oncology** *Chair: N. Aznar*	**OS9: Biomedical Flow Dynamics** *Chairs: A. Qiao & H. Anzai*	**GS: General Session** Design, Optimization, and Acoustic Analysis of Aerodynamic Structures *Chair: K. Inokuma*
17:00-17:18 OS2-32 Knocking Processes in NH3/H2 Engine *F. Hurault , F. Foucher, P. Brequigny, C. Mounaïm-Rousselle, H. Moriyama, T. Fukaya, Y. Morii, K. Maruta* 17:18-17:36 OS2-33 Theoretical Analysis on Flame Propagation with Chemically Unfrozen Preheat Zone: ZFK-FKPP Transition and Knock Onset *A. Tsunoda , Y. Morii, K. Maruta* 17:36-17:54 OS2-34 1D DNS Analysis of Knocking in PRF20/O_2/Ar Mixtures within a Constant Volume Chamber *S. Miyazaki , H. Moriyama, T. Tezuka, Y. Morii, K. Maruta* 17:54-18:12 OS2-35 The Effect of Fuel Lewis Number on the Behaviors of Highly Preheated Premixed Flames *T. Fukaya , H. Moriyama, Y. Morii, K. Maruta* 18:12-18:30 OS2-36 Validation of 1D DNS Knock-Onset Prediction Methodology Using CFR Engine Data *H. Moriyama , Y. Morii, A. Tsunoda, Y. Yasutake, K. Misono, Y. Suzuki, T. Naiki, M. Watanabe, K. Maruta*	17:00-17:20 OS16-1 Vortex Merging Triggered by Hyperbolic Instability of 2D Taylor-Green Vortex *M. Hirota , N. Ueno, Y. Hattori* 17:20-17:40 OS16-2 Shortwave Instability of Helical Vortices with Swirl *L. Delbende , Y. Hattori, M. Rossi* 17:40-18:00 OS16-3 Nonlinear Dynamics and Turbulent Transition of a Helical Vortex Disturbed by the Short-wave Instabilities *D. Nishiyama , Y. Hattori* 18:00-18:20 OS16-4 Characteristics of Formation of Vortical Structure in Homogeneous Isotropic Turbulence *K. Nakayama*	17:00- Networking		17:00-17:20 OS7-15 Multi-Disciplinary Optimization with Aero-Structure Analyses for Flexible Aircraft *N. Morita , N. Okubo* 17:20-17:40 OS7-16 Multi-objective Bayesian Optimization of Composite Aircraft Wings *Y. Liu , Y. Abe* 17:40-18:00 OS7-17 Implicit Solver for Flexible Structures in Uniform Flow *T. Inoue, K. Hiroaki* 18:00-18:20 OS7-18 Conservative Load and Displacement Transfer in Fluid Structure Interaction *K. Kamakura , Y. Abe*	17:00-17:15 OS13-6 POD Analysis for Hyperbolic Diffuser Flows with Shock Waves *A. Tateno , Y. Miyazato, S. Nakao* 17:15-17:30 OS13-7 Evaluation of Erosion Initiation by High-Speed Spray Jet *W. Du , T. Yamagata* 17:30-17:45 OS13-8 The Form of Distribution Functions and Moment Definitions for Thermal Flow Computing with Lattice Boltzmann Method *Y. Mochizuki , T. Tagawa* 17:45-18:00 OS13-9 Numerical and Experimental Investigation on the Flow Behavior and Heat Transfer Characteristics by an Inclined Jet Impinging on a Curved Wall *H. Fu , Y. Li, C. Tang, A. Komiya* 18:00-18:15 OS13-10 Comparative Analysis of Wind Farm Power Prediction Based on Multi-dimensional Models *P.-c. Xiao , L.-l. Tian, Y.-l. Song, N. Zhao*		17:00-17:40 OS14-10 **Invited** HARP Phenomenon: Creation of Cancer Stem Cells by Using Synthetic Polymer Hydrogels *S. Tanaka , J. P. Gong, M. Tsuda* 17:40-18:10 OS14-11 Precision Oncology and Combined Small Molecule/Immune Cell Killing Screens in Pancreatic and Colorectal Cancer Organoids *F. Hollande , R. Wagner, P. Nguyen, S. Ramm, T. Putoczki, B. Lee, S. M. Grimmond, K. Simpson, A. Serrano* 18:10-18:30 OS14-12 Using Organoids to Investigate Cancer Treatment Resistance *M. Sedeuil, M. Plateau, É. Grenier, V. Giroux*	17:00-17:30 OS9-1 **Invited** Four-Dimensional Transcriptomic Profiling of Cerebral Aneurysm Growth and Treatment Effects with Flow Diversion *N. Kaneko , M. Samarage, R. Kawaguchi, O. Selim, L. Guo, J. P. Villablanca, L. Marsh, Y. Komuro, J. Cebral, J. Hinman* 17:30-17:45 OS9-2 Assessment of Porous Medium Coil Packing on Hemodynamics in Large and Small Intracranial Aneurysms *N. S. Shafi , K. Osman, R. Yamaguchi, H. Anzai, M. Ohta* 17:45-18:00 OS9-3 Quantitative Geometric Comparison of Real and Virtual Internal Carotid Arteries Based on Three Dimensional Bending Angles and Shape Distance Metrics *V. B. A. Ahnaf , K. Jin, J. Liao, M. Ohta, H. Anzai* 18:00-18:15 OS9-4 Segmentation of Alveoli Using 3D U-Net in Synchrotron Micro-CT Images *H. Maruyama , E. Yamamoto, H. Kobayashi, G. Tanaka, T. Sera* 18:15-18:30 OS9-5 Computational Analysis of Hemodynamics in an Asymmetrically Stenosed Artery Using a Boundary Value Framework *Shazmani , A. Saini, D. Saini*	17:00-17:18 GS1-11 Blades Optimization and Manufacturing for a Semicircular Savonius Wind Turbine *O. Ali Zargar , J.-C. Hsieh, Y.-S. Lin* 17:18-17:36 GS1-12 Design Considerations for Landing Pads with Airflow Holes for Small Rotorcraft *T. Hara , H. Otsuka, H. Tokutake, H. Nagai* 17:36-17:54 GS1-13 Numerical Study on Aerodynamic Behavior of Base Shape for Vertical Landing Rocket in Martian Atmosphere *K. Tachibana , N. Fujimatsu* 17:54-18:12 GS1-14 Vibro-Acoustic Modelisation of Periodic Woven Structures Dedicated to Multi-Objective Shape Optimization *T. Wanglomklang , S. Besset, F. Gillot, S. Mahmoudi* 18:12-18:30 GS1-15 Experiments on Sound Radiation from Protuberance in Boundary Layers: Correlation Coefficient with Wall-Velocity Fluctuations *T. Kasa , A. Inasawa*

18:30

COFFEE BREAK @ EX-Hall-3B

Tuesday, November 11, 2025

18:45 — EX-Hall-1A — 18:45

Plenary Lectures II
18:45-19:40
"Flame Surface Models for Large Eddy Simulations of Turbulent Combustion: Achievements, Challenges and Perspectives"
Denis Veynante
Chair: Philippe Dagaut

19:40 — 19:40

Tuesday, November 11, 2025

12:15										11:45-12:00 OS31-10 Electrochemical Detection of Nicotine in Hookah Smoke Using a Graphene-PEDOT: PSS/Nitrogen-Doped Carbon Nanosheet/Screen-Printed Carbon Electrode Sensor *S. Makaluza , F. O. G. Olorundare, B. N. Zwane, D. Nkosi, O. A. Arotiba* 12:00-12:15 OS31-11 Targeted Treatment of Metastatic Lymph Nodes via Lymphatic Drug Delivery System of a HDAC/PI3K Dual Inhibitor *E. Tada , A. Sukhbaatar, S. Mori, K. Saijo, C. Ishioka, H. Kawakami, T. Sugiura, T. Kodama*	12:15
	LUNCH BREAK / 12:20-12:30 Group Photo @ EX-Hall-3A / 12:30-13:15 Women in Flow Dynamics @EX-2									
13:30	EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B	13:30
	OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chairs: Z. Chen & Y. Morii*	**OS15: Turbulence: from Fundamentals to Applications** Coherent Structures *Chair: Y. Hattori*	**OS5: Advanced Applications of Multi-functional Fluids** Functional Flow in Material Process 3 *Chair: T. Fujino*	**OS28: IFS Collaborative Research Forum (AFI-2025)** *Chair: I. Oshima*	**OS7: Advances in Simulation Techniques for the Computational Aerosciences** *Chair: Y. Abe*		**OS19: Multiphase Thermal Fluid Flow and Its Interface Dynamics** *Chair: M. Shirota*	**OS10: Two-Phase Thermal Control Technology** *Chair: H. Nagai*	**OS12: Complex Thermofluid System** Computational Fluid Dynamics II *Chair: C.-Y. Chen*	**OS31: Japan-South Africa Bilateral Workshop** Japan-South Africa Bilateral / Sakura Science Workshop 3 *Chair: T. Kodama*	
	13:30-13:50 OS2-23 Canceled 13:50-14:10 OS2-24 Canceled 14:10-14:30 OS2-25 **Invited** Numerical Simulation of Two-phase Detonation in a Reactive Particle-laden Flow using Compressible Multiphase Particle-in-cell Method *J. He, B. Meng, B. Tian, J. Li* 14:30-14:50 OS2-27 **Invited** Rayleigh Flow as a Platform for Examining General Behaviors of 1D Reactive Flows: From Theoretical Prediction to Stable Realization of Weak Detonations *Y. Morii , K. Maruta*	13:30-13:50 OS15-14 Hierarchy of Coherent Vortices in Wall Turbulence using Numerical Simulation and Experimental Data *Y. Motoori , P. Bragança, S. Goto* 13:50-14:10 OS15-15 Turbulent Transport Characteristics of Coherent Structures in Ideal Vegetation Morphology Based On Wind Tunnel Experiments *G. Chen , F. Li, L. Yan, S. Liu, C.-H. Liu, Z. Mo* 14:10-14:30 OS15-16 On the Effect of Navier Slip Length on Turbulent Transport in the Wake behind a Square Prism *M. Wang , Y. Ito* 14:30-14:50 OS15-17 Experimental Study on the Effect of Microbubbles on Large-Scale Turbulent Structures in Pipe Flow *X. Wu , Y. Hamana, M. Nishikawara, Y. Tsuji*	13:30-13:50 OS5-20 Preparation of Spherical Titanium Powders by Using a DC Plasma Torch with Hollow Electrodes and Reverse Polarity Discharge Structure *S.-W. Kim , D.-H. Lee, S.-Y. Baek, N. -G. Lee, S.-Y. Yang, J.-H. Seo* 13:50-14:10 OS5-21 Synthesis of Carbon Catalyst with Large Surface Area Using Liquid Plasma with Ultrasonic Cavitation *H. Ota , A. Shigematsu, M. Kodama, O. L. Li, N. Takeuchi, H. Takana* 14:10-14:30 OS5-22 Flow-Induced Reactivity Amplification in a CuS/ZnS/SnS-Based Sonocatalytic Interface for Aqueous Pollutant Degradation *K. P. Sharma, M. Shin , T.-K. Kwon, M.-Y. Kim, C. Yu* 14:30-14:50 OS5-23 Sonic Resonance for Polymer Synthesis *A. Tokutake , H. Nakamura, H. Goto*	13:30-15:00 **Short Oral Presentation** CRF-1 - CRF-26	13:30-13:50 OS7-9 Reduced Order Modeling of Turbulent Channel Flow Undergoing Wavy Walls *M. Brockhaus , A. Sescu* 13:50-14:10 OS7-10 Fluid-Structure Interaction Analysis based on Control Theory *C. Lee , T. Yamazaki, Y. Kawano, Y. Abe* 14:10-14:30 OS7-11 Machine Learning-Based Surrogate Modeling for Fluids Engineering Simulation and Design *K. Shimoyama , R. Saito, S. Yoshida* 14:30-14:50 OS7-12 Machine-learning-based Informative Mode Analysis for Separated Airfoil Wakes *K. Fukami , R. Araki*		13:30-13:50 OS19-10 Pressure Estimation of Acoustic and Shock Waves through Calibrated Schlieren Imaging *G. Vicziconte , P. Guida, T. T. Truscott, W. L. Roberts* 13:50-14:10 OS19-11 Bubbly Shock Waves Characterization in Aerated Cavitating Flows in Water and Dodecane via Computer Vision Tools *E. Zur , I. Gluzman* 14:10-14:30 OS19-12 Is There a Chance to Absorb Atmospheric Moisture for an Evaporating Methanol Drop? *A. K. Mannem, D. K. Mandal* 14:30-14:50 OS19-13 Visualization Investigation of the Methanol/Diesel Spray-To-spray Impingement Characteristics *Y. Zhang , Z. Zhang, D. Dong, G. Li, X. Xie*	13:30-13:50 OS10-1 Characterization of Temperature Controllability of Loop Heat Pipe with Electrohydrodynamic Pump *M. Nishikawara , T. Miyakita* 13:50-14:10 OS10-2 Development of a New Seal System of Turboexpander for Hydrogen Liquefiers *N. Nakamura , Y. Miyamoto* 14:10-14:30 OS10-3 Design and Experimental Demonstration of a Nitrogen-Charged Loop Heat Pipe for a Cryogenic Passive Cooler *H. Hamano , K. Odagiri, A. Gomi, H. Ogawa* 14:30-14:50 OS10-4 Numerical Analysis of Heat Transfer Phenomena in a Meander-Shaped Low-Fill Heat Pipe *A. Hatamoto , K. Fumoto, H. Nagai*	13:30-13:45 OS12-27 Physics-Informed Neural Network-Based Optimization Method for Pneumatic Systems *Y.-H. Chan , H.-C. Chang, W.-H. Wang* 13:45-14:00 OS12-28 Optimization Design of Airfoils by Genetic Algorithm and Computational Fluid Dynamics *Z.-H. Yu , P.-C. Chuang, W.-H. Wang* 14:00-14:15 OS12-29 The Investigation of Wind Turbine Aerodynamics by 6-DOF motion and Immersed Boundary Method *Y.-T. Liu , C.-W. Tsao, W.-H. Wang* 14:15-14:30 OS12-30 Scalable Multi GPU CFD Simulations of High Rayleigh Number Natural Convection on Large Circular Heated Plates *H.-C. Chang , W.-H. Wang* 14:30-14:45 OS12-31 Turbulent Mixed Convection with Oppositely Heated Plates Using Implicit LES *P.-L. Hou , C.-G. Li* 14:45-15:00 OS12-32 A CFD Study on the Effects of 2D Patterned Superbifilic Heated Surfaces on Pool Boiling Heat Transfer *S.-M. Huang , J.-Y. Zhang, Y.-C. Lin*	13:30-13:45 OS31-12 A Label-Free TB Test Using Electrochemiluminescence As The Transducer *M. Cox , S. F. Douman, E. I. Iwuoha* 13:45-14:00 OS31-13 Efficacy of Radioimmunotherapy for Metastatic Lymph Nodes without Site-Specific Identification *R. Suzuki , W. S. Aulia, T. Shimano, A. Sukhbaatar, S. Mori, T. Kodama* 14:00-14:15 OS31-14 Dendrimer – Gold Nanocomposite-Based Electrochemical Aptasensor for the Detection of Dopamine *D. S. Sipuka , F. O. G. Olorundare, S. Makaluza, N. Midzi, T. I. Sebokolodi, O. A. Arotiba, D. Nkosi* 14:15-14:30 OS31-15 The Evaluation of Histopathology Related to Treatment Efficacy of Docetaxel Treatment by LDDS for Lymph Node Metastasis *W. S. Aulia , K. Kanon, A. Sukhbaatar, S. Mori, T. Sugiura, T. Kodama* 14:30-14:45 OS31-16 Electrochemical Detection of Paracetamol in Wastewater Using an Exfoliated Graphite-CuInSe/ZnS QDs Electrode *P. S. Silinda , T. I. Sebokolodi, O. S. Oluwafemi, O. A. Arotiba*	
15:00	COFFEE BREAK @ EX-Hall-3B										15:00

Tuesday, November 11, 2025

15:15

EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chairs: Z. Chen & Y. Morii*	**<Joint Session> OS15: Turbulence: from Fundamentals to Applications & OS23: Aerospace Heat, Fluid Engineering, and Mathematical Physics: Nonlinear Dynamics and Stochastic Processes with JST CREST** *Chair: A. Yakeno*	**OS5: Advanced Applications of Multi-functional Fluids** Advanced Multiphase Flow 2 *Chair: H. Kobayashi*	**OS28: IFS Collaborative Research Forum (AFI-2025)**	**OS7: Advances in Simulation Techniques for the Computational Aerosciences** *Chair: K. Otsuka*	**OS13: Flow and Energy** *Chair. T. Yamagata*	**OS19: Multiphase Thermal Fluid Flow and Its Interface Dynamics** *Chair: K. Hasegawa*	**OS10: Two-Phase Thermal Control Technology** *Chair: M. Nishikawara*	**OS12: Complex Thermofluid System** Fluid Mechanics Applications II *Chair: C.-Y. Chen*	**GS: General Session** High-Energy Reactive and Rarefied Flow Modeling *Chair: T. Ikami*
15:20-15:40 OS2-26 **Invited** Initiation of Oblique Detonation Wave with Incoming Boundary Layer *X. Shao, Z. Zhang* 15:40-16:00 OS2-28 **Invited** Re-Interpretation of Flame Structure Based on Flow Fields *K. Matsue , Y. Morii* 16:00-16:20 OS2-30 **Invited** Numerical Study on Detonation Initiation by Multiple Hot Spots *J. Sun, Z. Chen* 16:20-16:38 OS2-31 1D DNS on Shock Formation and Detonation Transition Triggered by Reaction Wave Speed Exceeding the Subsonic CJ Speed *H. Okada , Y. Morii, A. Tsunoda, K. Maruta*	15:15-15:35 OS15-18 Spectral Proper Orthogonal Decomposition of Coherent Structure and Energy Transfer in Urban Convective Boundary Layers *L. Yan , K. Zhou, G. Chen, C.-H. Liu* 15:35-15:55 OS15-19 / OS23-1 Study on Laminar-Turbulence Transition Process in Supersonic Boundary Layer Based on Variational Mode Decomposition and Optimal Perturbation Analysis *N. Taniguchi , A. Yakeno* 15:55-16:15 OS15-20 / OS23-2 Large Eddy Simulations on Heat Flux Characteristics of Apollo-shaped Capsule *K. Inokuma , A. Yakeno, B. Ridolfi, S. Yatsuyanagi, H. Tanno*	15:15-15:35 OS5-24 Scalable and Sustainable Production of High-Performance Bio-Based Fibers *A. B. Dichiara , D. D. Edmundson, W. Hira, Y. Kaneko, H. Takana* 15:35-15:55 OS5-25 Single Particle Sensing Enhanced by the Combination of Electrostatic Force and Pressure–Driven Flow *S. Ochi , T. Kishimoto, K. Doi* 15:55-16:15 OS5-26 Modification of Suppressed Heat Transfer of Viscoelastic Fluid Flow in Rectangular Duct with 2 of Aspect Ratio *T. Kadowaki , M. Motozawa, M. Fukuta, W. Rakpakdee, W. Chaiworapuek* 16:15-16:35 OS5-27 Change in Drag Reducing Effect and Rheological Property of Surfactant Solution by Adding Cellulose Nano-fiber *M. Motozawa , Y. Ueda, H. Takana*	15:15-16:15 **Poster Presentation** CRF-1 - CRF-26	15:15-16:15 OS7-13 **Invited** Aviation Turbulence and Climate Change *R. Palacios* 16:15-16:35 OS7-14 Flexible Wing Simulation and Experiment Using Magnetic Suspension and Balancing System *K. Shimura , Y. Abe, K. Otsuka*	15:15-15:30 OS13-1 Hydrodynamic Losses in Different Sections of Cross-Flow Turbine *Y. Kitagawa , Y. Kuroda, S. Iio* 15:30-15:45 OS13-2 Experimental Study on the Effect of Nozzle Outlet Angle on Submerged Impulse Turbine Performance and Noise *Y. Kondo , A. Gogo, T. Nendai, S. Iio, M. Kaneko, M. Terada, Y. Kawaguchi* 15:45-16:00 OS13-3 Effects of Nozzle Diameter and Number of Buckets on Micro Pelton Turbine Performance *I. Nozawa , C. Muramatsu, G. Katagiri, Y. Suetsugu, T. Ishikawa, Y. Noda, S. Ishin, T. Ishikawa, S. Iio* 16:00-16:15 OS13-4 Relationship Between the Performance of Waterfall Cross-Flow Hydraulic Turbine and Waterfall Flow Conditions *K. Moriya , T. Yamagata, N. Fujisawa* 16:15-16:30 OS13-5 Unsteady Energy Analysis of Cavitation Surge Suppression in a 3D Cavitating Inducer with Feedback Control *T. Onuma , A. Kiyama, T. Ikeda, B. An, M. Nohmi, D. Kang*	15:15-15:35 OS19-14 Experimental Investigation of Drops Gyrating on Heated Surfaces with Asymmetric Wettability *H. Kurita , T. Okabe* 15:35-15:55 OS19-15 Condensation-Induced Non-Contact Bouncing Failure *G. Deschasaux, J. Shen, Y. Serata, M. Tenjimbayashi, T. Mouterde* 15:55-16:15 OS19-16 Evaluation of Viscous Dissipation with Rim Development in Drop Impact *T. Kishi , T. Yamaya, T. Miyagawa, M. Shirota* 16:15-16:35 OS19-17 Dominant Role of Solid Particles in Drop-Impact Heat Transfer *T. Sakurai , K. Kudo, M. Shirota, T. Okabe*	15:15-15:35 OS10-5 Local Heat Transfer during Evaporative Flow in a Plate Heat Exchanger with Thin Plates *T. Hirokawa* 15:35-15:55 OS10-6 Effect of Multi-Channel Interaction on Boiling Characteristics in Two-Phase Microjet Cooling *S. Oshima , S. Murakami, T. Shoyama, N. Higuchi, H. Sakai, K. Kinefuchi* 15:55-16:15 OS10-7 Flow Boiling Heat Transfer of Refrigerant HFC-245fa in Microchannel Cold Plate with Stepped Channel Height *Z.-L. Jiang , C.-Y. Yang*	15:15-15:30 OS12-33 Advanced Design of Methanol Preparation System by Biomass High-temperature Steam Gasification *P. Wang, X. Zou , C. Gu, Y. Zhang, M. Zhai* 15:30-15:45 OS12-34 Theoretical Derivation of Flow and Acoustic Fields in Nozzles with Different Gases under the Linearisation Equation of State *D. Wang , J. Li* 15:45-16:00 OS12-35 Development of an Aerodynamic Stability Module for the Preliminary Design of a Launch Vehicle *Y.-F. Cheng , C.-Y. Chen, Y.-K. Peng, Y. Lee*	15:15-15:33 GS1-6 CFD Simulation of Methane-Hydrogen Combustion and NO Emissions *K.-L. Li , C.-C. Tseng, Y.-Z. Chen, M.-H. Wu, C.-J. Li, W.-D. Hsieh* 15:33-15:51 GS1-7 Kinetic Simulation of Plasma Dynamics for the Development of an Air-Breathing Electric Propulsion System *K. Sakamoto , M. Takahashi, K. Ito* 15:51-16:09 GS1-8 Particle Simulation on Energy Transport and Thrust Generation for Laser-plasma-driven Explorer for UNtouched low Altitude (LUNA) in a Rarefied Environment *S. Uno , M. Takahashi* 16:09-16:27 GS1-9 Experimental Study on Particle and Gas Dynamics in a Simulated Volcanic Eruption using Schlieren Image Velocimetry *A. Kaneko , K. Seo, K. Ohtani, K. Tsunematsu, N. Steinau, T. Tomizawa* 16:27-16:45 GS1-10 Influence of Separation Distance on Temperature Distribution and Velocity Field Dynamics in Multiple Fire Source Arrays *O. Eissa, M. Behnia , M. Ghodrat*

16:45

COFFEE BREAK @ EX-Hall-3B

17:00

EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chair: C. Rousselle*	**OS16: Vortex Motion** Vortex & Instability *Chair: Y. Hattori*	**OS5: Advanced Applications of Multi-functional Fluids** Netoworking	**OS28: IFS Collaborative Research Forum (AFI-2025)**	**OS7: Advances in Simulation Techniques for the Computational Aerosciences** *Chair: K. Otsuka*	**OS13: Flow and Energy** *Chair: S. Iio*		**OS14: Innovations in Oncology** *Chair: N. Aznar*	**OS9: Biomedical Flow Dynamics** *Chairs: A. Qiao & H. Anzai*	**GS: General Session** Design, Optimization, and Acoustic Analysis of Aerodynamic Structures *Chair: K. Inokuma*
17:00-17:18 OS2-32 Knocking Processes in NH3/H2 Engine *F. Hurault , F. Foucher, P. Brequigny, C. Mounaïm-Rousselle, H. Moriyama, T. Fukaya, Y. Morii, K. Maruta* 17:18-17:36 OS2-33 Theoretical Analysis on Flame Propagation with Chemically Unfrozen Preheat Zone: ZFK-FKPP Transition and Knock Onset *A. Tsunoda , Y. Morii, K. Maruta* 17:36-17:54 OS2-34 1D DNS Analysis of Knocking in PRF20/O_2/Ar Mixtures within a Constant Volume Chamber *S. Miyazaki , H. Moriyama, T. Tezuka, Y. Morii, K. Maruta* 17:54-18:12 OS2-35 The Effect of Fuel Lewis Number on the Behaviors of Highly Preheated Premixed Flames *T. Fukaya , H. Moriyama, Y. Morii, K. Maruta* 18:12-18:30 OS2-36 Validation of 1D DNS Knock-Onset Prediction Methodology Using CFR Engine Data *H. Moriyama , Y. Morii, A. Tsunoda, Y. Yasutake, K. Misono, Y. Suzuki, T. Naiki, M. Watanabe, K. Maruta*	17:00-17:20 OS16-1 Vortex Merging Triggered by Hyperbolic Instability of 2D Taylor-Green Vortex *M. Hirota , N. Ueno, Y. Hattori* 17:20-17:40 OS16-2 Shortwave Instability of Helical Vortices with Swirl *L. Delbende , Y. Hattori, M. Rossi* 17:40-18:00 OS16-3 Nonlinear Dynamics and Turbulent Transition of a Helical Vortex Disturbed by the Short-wave Instabilities *D. Nishiyama , Y. Hattori* 18:00-18:20 OS16-4 Characteristics of Formation of Vortical Structure in Homogeneous Isotropic Turbulence *K. Nakayama*	17:00- Networking		17:00-17:20 OS7-15 Multi-Disciplinary Optimization with Aero-Structure Analyses for Flexible Aircraft *N. Morita , N. Okubo* 17:20-17:40 OS7-16 Multi-objective Bayesian Optimization of Composite Aircraft Wings *Y. Liu , Y. Abe* 17:40-18:00 OS7-17 Implicit Solver for Flexible Structures in Uniform Flow *T. Inoue, K. Hiroaki* 18:00-18:20 OS7-18 Conservative Load and Displacement Transfer in Fluid Structure Interaction *K. Kamakura , Y. Abe*	17:00-17:15 OS13-6 POD Analysis for Hyperbolic Diffuser Flows with Shock Waves *A. Tateno , Y. Miyazato, S. Nakao* 17:15-17:30 OS13-7 Evaluation of Erosion Initiation by High-Speed Spray Jet *W. Du , T. Yamagata* 17:30-17:45 OS13-8 The Form of Distribution Functions and Moment Definitions for Thermal Flow Computing with Lattice Boltzmann Method *Y. Mochizuki , T. Tagawa* 17:45-18:00 OS13-9 Numerical and Experimental Investigation on the Flow Behavior and Heat Transfer Characteristics by an Inclined Jet Impinging on a Curved Wall *H. Fu , Y. Li, C. Tang, A. Komiya* 18:00-18:15 OS13-10 Comparative Analysis of Wind Farm Power Prediction Based on Multi-dimensional Models *P.-c. Xiao , L.-l. Tian, Y.-l. Song, N. Zhao*		17:00-17:40 OS14-10 **Invited** HARP Phenomenon: Creation of Cancer Stem Cells by Using Synthetic Polymer Hydrogels *S. Tanaka , J. P. Gong, M. Tsuda* 17:40-18:10 OS14-11 Precision Oncology and Combined Small Molecule/Immune Cell Killing Screens in Pancreatic and Colorectal Cancer Organoids *F. Hollande , R. Wagner, P. Nguyen, S. Ramm, T. Putoczki, B. Lee, S. M. Grimmond, K. Simpson, A. Serrano* 18:10-18:30 OS14-12 Using Organoids to Investigate Cancer Treatment Resistance *M. Sedeuil, M. Plateau, É. Grenier, V. Giroux*	17:00-17:30 OS9-1 **Invited** Four-Dimensional Transcriptomic Profiling of Cerebral Aneurysm Growth and Treatment Effects with Flow Diversion *N. Kaneko , M. Samarage, R. Kawaguchi, O. Selim, L. Guo, J. P. Villablanca, L. Marsh, Y. Komuro, J. Cebral, J. Hinman* 17:30-17:45 OS9-2 Assessment of Porous Medium Coil Packing on Hemodynamics in Large and Small Intracranial Aneurysms *N. S. Shafii , K. Osman, R. Yamaguchi, H. Anzai, M. Ohta* 17:45-18:00 OS9-3 Quantitative Geometric Comparison of Real and Virtual Internal Carotid Arteries Based on Three Dimensional Bending Angles and Shape Distance Metrics *V. B. A. Ahnaf , K. Jin, J. Liao, M. Ohta, H. Anzai* 18:00-18:15 OS9-4 Segmentation of Alveoli Using 3D U-Net in Synchrotron Micro-CT Images *H. Maruyama , E. Yamamoto, H. Kobayashi, G. Tanaka, T. Sera* 18:15-18:30 OS9-5 Computational Analysis of Hemodynamics in an Asymmetrically Stenosed Artery Using a Boundary Value Framework *Shazmani , A. Saini, D. Saini*	17:00-17:18 GS1-11 Blades Optimization and Manufacturing for a Semicircular Savonius Wind Turbine *O. Ali Zargar , J.-C. Hsieh, Y.-S. Lin* 17:18-17:36 GS1-12 Design Considerations for Landing Pads with Airflow Holes for Small Rotorcraft *T. Hara , H. Otsuka, H. Tokutake, H. Nagai* 17:36-17:54 GS1-13 Numerical Study on Aerodynamic Behavior of Base Shape for Vertical Landing Rocket in Martian Atmosphere *K. Tachibana , N. Fujimatsu* 17:54-18:12 GS1-14 Vibro-Acoustic Modelisation of Periodic Woven Structures Dedicated to Multi-Objective Shape Optimization *T. Wanglomklang , S. Besset, F. Gillot, S. Mahmoudi* 18:12-18:30 GS1-15 Experiments on Sound Radiation from Protuberance in Boundary Layers: Correlation Coefficient with Wall-Velocity Fluctuations *T. Kasa , A. Inasawa*

18:30

COFFEE BREAK @ EX-Hall-3B

Tuesday, November 11, 2025

18:45 — EX-Hall-1A — 18:45

Plenary Lectures II
18:45-19:40
"Flame Surface Models for Large Eddy Simulations of Turbulent Combustion: Achievements, Challenges and Perspectives"
Denis Veynante
Chair: Philippe Dagaut

19:40 — 19:40

Wednesday, November 12, 2025

EX-Hall-1A

OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals

Chair: K. Kanayama

9:00-9:18 OS2-37
Intrinsic Instabilities of Partially Cracked Ammonia/Air Flames
O. Wen , Y. Wang, L. Yang, T. Zirwes, S. Wang, Z. Chen

9:18-9:36 OS2-38
Numerical Analysis of Boiling Liquid Expansion of Pressurized Hydrogen
M. Kuznetsov , A. Lelyakin, E. Torres de Ritter

9:36-9:54 OS2-39
On the Accuracy of Laminar Burning Velocity Measured from Spherically Expanding NH_3/air Flames
S. Zitouni , C. Schwenzer, R. Glaznev, R. Hesse, H. Pitsch, J. Beeckmann, C. Mounaïm-Rousselle, N. Chaumeix, F. Halter

9:54-10:12 OS2-40
Enhancing Ammonia Ignition Using Combustion Products of Pre-Ignited Ammonia-Air, Hydrogen-Air and Methane-Air Mixtures: A Chemical Kinetics Study
E. C. Okafor , R. Takao, D. Matsuda, T. Kitagawa

10:12-10:30 OS2-41
Shock Tube Measurement of Ignition Delay Times for NH_3/O_2/Ar under High-Temperature and High-Pressure Conditions with a Constraint Reaction Volume Approach
A. Sharma , Y. Morimoto, Y. Wakata, A. Hayakawa, H. Nakamura, Y. Fujimoto, S. Obayashi, D. Shimokuri

EX-Hall-1B

OS16: Vortex Motion

Boundary Layer & Instability
Chair: Y. Fukumoto

9:10-9:30 OS16-5
Global Stability Analysis of Boundary Layer Flow Over Complex Roughness Modeled by the Volume Penalization Method
H. Fujii , M. Hirota, Y. Hattori

9:30-9:50 OS16-6
DNS Investigation of the Mechanics of Görtler Vortices Breakdown in Hypersonic Flows
O. Es-Sahli , M. Brockhaus, A. Sescu, Z. Koshuriyan, Y. Hattori

9:50-10:10 OS16-7
Effect of Wall Temperature and Transpiration on Görtler Vortices in High-speed Boundary Layers
A. Ahaggach , A. Sescu, Z. Koshuriyan, Y. Hattori

10:10-10:30 OS16-8
Study on Rotating Flow Instability Induced by a Rotating Blade Cascade in Quiescent Fluid
D. Tsuchida , A. Kiyama, K. Yokota, K. Sato, D. Kang

EX-Hall-3A

OS1: The Third International Symposium on Integrated Flow Science I & III

Chair: J. Ishimoto

9:00-9:35 OS1-1 **Invited**
Numerical Analysis of Multi-loop Pulsating Heat Pipes on Cooled Cylinder for Rotary Applications
M. Opalski, A. Ruziewicz, A. I. Nowak, C. Czajkowski, J. Ishimoto, S. Pietrowicz

9:35-10:10 OS1-2 **Invited**
Experimental and Numerical Analyses of the Flow Pattern in Pulsating Heat Pipes in Micro and Hypergravity
S. Pietrowicz , J. Ishimoto

10:10-10:30 OS1-3
Geometry Effect of PCM Container on the Thermal Management of Lithium-Ion Batteries: Numerical Investigation
Z.-X. Ji , L. Lin, K. C. Lin

EX-Hall-3B

OS28: IFS Collaborative Research Forum (AFI-2025)

EX-1

OS7: Advances in Simulation Techniques for the Computational Aerosciences

Chair: T. Haga

9:00-9:20 OS7-19
Strong Stability Preserving Runge-Kutta Projection Methods
M. R. Najafian , B. C. Vermeire

9:20-9:40 OS7-20
Development of a Porosity-Based Immersed Boundary Model for the Compressible Navier-Stokes Equations on Cartesian Grids
E. Kawashiro , H. Terashima, N. Oshima

9:40-10:00 OS7-21
Online Load Balancing of High-Order Mixed Element Simulations on Heterogeneous Architectures
S. Mishra , S. Akkurt, F. Witherden

10:00-10:20 OS7-22
A Cartesian Multilevel Multigrid Method for Steady-State Reynolds-Averaged Navier-Stokes
A. Anil Das , N. Williamson, S. Armfield

EX-2

OS13: Flow and Energy

Chair: A. Komiya

9:00-9:15 OS13-11
Towards Efficient Ammonia Gas Turbines: Role of Indirect and Direct Cooling in Compression Process
J. Zhou , K. Shi, F. Duan

9:15-9:30 OS13-12
Numerical Simulation of Overtopping Behavior and Reservoir Flow in OBREC Systems for Turbine Design
Y. Y. E. Darma, R. H. Pratama , A. T. Rohman, S. D. Nurcholik, I. Oshima

9:30-9:45 OS13-13
Spectral Optical Properties of a Porous Polymer for Efficient Radiative Cooling
M. Baneshi , A. Komiya

9:45-10:00 OS13-14
Optical Performance and Flux Uniformity Optimization for Parabolic Dish Solar Concentrators: Coupled Effects of Receiver Axial Position and Tracking Error
S. D. Paul, K. R. Kumar, B. Selvan

10:00-10:15 OS13-15
Thermal Plasma Driven Perovskite Phase High Entropy Oxide Nanoparticles for Efficient Thermochemical Water Splitting
A. Pasupathi, M. S. Babu, S. Bellan , S. Yugeswaran

10:15-10:30 OS13-16
Preliminary Thermal Analysis of Flush-Mounted Photovoltaic Modules on Metal Roofs
J.-W. Dong , Y.-M. Lin, K.-W. Lee, Y.-Q. Ye, C.-Y. Lin

EX-3-A

OS3: The Third International Symposium on Integrated Flow Science IV: Advanced Semiconductor and Digital Transformation

Chair: K. Endo

9:00-9:30 OS3-1 **Invited**
Synthesis and Properties of Group IV Clathrate Thin Film
T. Kume , F. Ohashi, H. S. Jha

9:30-9:45 OS3-2
Pulse Response of Ag_2S Resistance Change Device
K. Hamada , T. Ohno, K. Endo

9:45-10:00 OS3-3
The Modeling and Heat Transfer Analysis in RRAM Devices
A. Marcelina , H.-Y. Shih, Prabowo

10:00-10:15 OS3-4
Numerical and Experimental Investigation of Atomized Droplets Ejected from the Edge of a Rotating Disk
A. Ishimaru , S. Aihara, T. Matsuda, M. Muto, S. Tamano, N. Matsui

10:15-10:30 OS3-5
Numerical Study of Extensional Characteristics of Liquid Ligament from the Edge of a Rotating Disk
Y. Kawaguchi , A. Ishimaru, S. Aihara, T. Matsuda, M.Muto, N. Matsui, S. Tamano

EX-3-B

OS18: Flow measurements using PSP/TSP Technique

Chair: Y. Egami

9:00-9:40 OS18-1 **Invited**
Boundary Layer Transition Measurement by Temperature-Sensitive Paint in Low-Speed Flow
T. Ikami , H. Nagai

9:40-10:00 OS18-2
Study of the Micro-Scale Heat Transfer Enhancement by 3-D Acoustic Streaming Flow Using TSP
W.-S. Lee, W.-H. Tien

10:00-10:20 OS18-3
Temperature-Sensitive Paint Measurements and Numerical Analysis of Hybrid Thermal Management System using PCM and Microchannel Flow
C.-Y. Jou, J.-L. Lin , C.-Y. Huang, T. -M. Liou

EX-4-A

OS9: Biomedical Flow Dynamics

Chairs: K. Takashima & M. Shiddiq

9:00-9:15 OS9-6 **Invited**
Composite Meshes for Biomedical Applications
S. Halmóczki, V. Pálos, C. Voniatis, H. Saifurrahman, M. Ohta, A. Jedlovszky-Hajdu

9:15-9:30 OS9-7
Development of Polysuccinimide-Salt Nanofibers for Wound Dressing Applications
V. Pálos , D. G. Kis, S. Halm óczki, C. Voniatis, H. Saifrahman, M. Ohta, A. Jedlovszky-Hajdu

9:30-9:45 OS9-8
Nanostructured Composites in Biomedical Research
S. Halmóczki , K. Osán, A. Jedlovszky-Hajdú, C. Voniatis, V. T. Pálos, M. Ohta, H. Saifurrahman

9:45-10:00 OS9-9
Catheter Tracking System Using Magnetic Field
L. Paquet , M. Ohta, Y. Haga, N. Tsuruoka, A. Solignac, K. T. V. Koon, B. Ducharne

10:00-10:15 OS9-10
Study on Effects of Various Parameters on Penetration Accidents during Catheter Introduction
H. Hidaka , K. Takashima, Y. Haga, M. Ohta, K. Mori, N. Toma, M. Shojima

10:15-10:30 OS9-11
Designing In Situ Pressure Measurement System for In Vitro Vascular Model Experiment
F. A. Dinata , M. S. A. Farisi, N. K. Putra

EX-4-B

GS: General Session

Multiscale Dynamics and Non-Destructive Evaluation of Complex Media
Chair: L. A. Lesmana

9:00-9:18 GS1-16
Momentum Transport in Sheared Liquids: Insights from Molecular Dynamics Simulations
M. Yoshida , D. Surblys, T. Ohara

9:18-9:36 GS1-17
Experimental Study on Nondestructive Evaluation of Mechanical Properties of Fatigue Damaged 304 Stainless Steel with Eddy Current Testing Signals
Y. Qu , K. Deng, H.-E. Chen, S. Xie, Z. Chen, T. Uchimoto

9:36-9:54 GS1-18
Nondestructive Evaluation of Mechanical Property of SS400 Steel with Fatigue Damage Based on Magnetic Adaptive Testing Signals
K. Deng , Z. Wang, Y. Qu, H.-E. Chen, S. Xie, Z. Chen, T. Uchimoto

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COFFEE BREAK @ EX-Hall-3B

EX-Hall-1A

OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals

Chair: E. C. Okafor

10:45-11:15 OS2-42 **Invited**
Liquid Ammonia Injection in Internal Combustion Engines: Droplet Sizing
U. Sonawame, C. Hespel, C. Mounaïm-Rousselle , K. Honda, A. Hayakawa

11:15-11:33 OS2-43
Investigation on Combustion Characteristics of Lean $NH_3/H_2/NO/O_2$/Ar Mixtures Using a Micro Flow Reactor with a Controlled Temperature Profile
K. Nishimura , K. Kanayama, M. Izumi, T. Tezuka, H. Nakamura

11:33-11:51 OS2-44
Experimental Study on the Effect of a Preheated NH_3 Stagnation Flame on Ferrous Metals
K. Kanayama , M. Izumi, T. Tezuka, G. Miyamoto, H. Nakamura

11:51-12:09 OS2-45
Exploring the Clean Potential of Next-Generation Internal Combustion Engines through Experimental Analysis
C.-Y. Lee, H.-H. Chen , P.-S. Chang

EX-Hall-1B

OS16: Vortex Motion

Compressible Flow & Vortex
Chair: M. Hirota

10:45-11:05 OS16-9
Representations for Wave Energy on Steady Flows of a Compressible Baroclinic Fluid
Y. Fukumoto , R. Zou

11:05-11:25 OS16-10
Numerical Simulation for Compressible Navier-Stokes Equation using SQUID
T. Nakazawa

11:25-11:45 OS16-11
PZT Generated BAW-Induced Streaming and Capillary Waves in Microliter Droplet on Paper-Substrate
V. Karma , S. Pushpavanam

11:45-12:05 OS16-12
Wind Tunnel Experiment and Numerical Simulation of Compressibility Effect for AGARD-B Model
H.-Y. Chou, T.-T. Chang , Y.-C. Liu

EX-Hall-3A

OS1: The Third International Symposium on Integrated Flow Science I & III

Chair: J. Ishimoto

10:45-11:05 OS1-4
Evaluating Energy Saving for Active Cooling in PCM-based Lithium-ion Battery Thermal Management
P.W. Lee, K. C. Lin, J. Li

11:05-11:25 OS1-5
Experimental Fluid Dynamic Study on Enhancing Water Harvesting Efficiency of Solar Evaporators via Bioinspired Surface Design
J. Y. Kim, S. H. Kim, J. J. Kim

11:25-11:45 OS1-6
Green Petroleum Coke as CO_2/CH_4 Separation in Natural Gas Processing Industry
F. Yulia , S. A. Pradanawati, M. Yusril, T. Mabuchi

11:45-12:05 OS1-7
Investigation of Different Hydrogen-Rich Fuels Co-Injected with Pulverized Coal into the Blast Furnace
J.-H. Huang , S.-Y. Hsu, B.-J. Lin, T.-Y. Huang

EX-Hall-3B

OS28: IFS Collaborative Research Forum (AFI-2025)

Chair: S. Liu

10:45-12:15
Short Oral Presentation
CRF-27 - CRF-52

EX-1

OS7: Advances in Simulation Techniques for the Computational Aerosciences

Chair: F. D. Witherden

10:45-11:05 OS7-23
Structure of Underexpanded Star Jets by Numerical Simulation
T. Toyoyama , S. Togoshi, S. Nakao, Y. Miyazato

11:05-11:25 OS7-24
Three-Dimensional Structure of Underexpanded Hexagonal Jets by Numerical Calculations
R. Mizobe , S. Nakao, Y. Miyazato

11:25-11:45 OS7-25
Numerical Simulations of Underexpanded Square Jets
M. Takamura , S. Nakao, Y. Miyazato

EX-2

OS13: Flow and Energy

Chair: S. Funatani

10:45-11:00 OS13-17
Numerical Investigation of Hydrogen Production Efficiency for Methane Pyrolysis Using a Reduced Chemical Reaction Model
K. Ekida , M. Asahara, A. Kiyama, D. Kang

11:00-11:15 OS13-18
Effects of Capillary Number on Dynamic Dissolution and Flow of Supercritical CO_2 During Cyclic Injection in Porous Media
K. Zhang , C. Zhang, S. Zheng, T. Suekane

11:15-11:30 OS13-19
From Nucleation to Ligament Fragmentation: Ultra-Fast Imaging of Liquid-Ammonia Flash Atomization Using SLE-Fabricated Glass Nozzles
P. Augustin , R. Kneer, M. Reddemann

11:30-11:45 OS13-20
Effects of Ultrasonic Vibration Frequency on Heat Transfer Enhancement in Pool Conditions
C.-C. Hung , P.-H. Hsu, H. Lee, T.-W. Chen, S.-W. Chen

EX-3-A

OS3: The Third International Symposium on Integrated Flow Science IV: Advanced Semiconductor and Digital Transformation

Chair: D. Ohori

10:45-11:15 OS3-6 **Invited**
Emerging Plasma Nanotechnology That Breaks Through the Limitations of Plasma Processing =Neutral Beam Atomic Layer Processing=
S. Samukawa

11:15-11:30 OS3-7
Evaluation of Thermal and Carrier Diffusion Properties of Si-Nanopillar/SiGe Composite Films by Laser Heterodyne Photothermal Displacement Method with Controlled Probe and Excitation Positions
S. Urano , Y. Hosokoshi, D. Ohori, K. Endo, S. Samukawa, A. Fukuyama

11:30-11:45 OS3-8
Effect of Ligands of Amino Silane Precursors on SiO_2 Growth
Y. Tsuchizu , T. Otsuka, M. Yamazaki, D. Ohori, H. Arimoto, K. Endo

11:45-12:00 OS3-9
Plasmonic Coupling-Driven Spectral Engineering in Metal Nanostructure-Integrated Light-Emitting Devices
T. Kiba , K. Ikeda, M. Kawamura, A. Higo, D. Ohori, K. Endo

EX-3-B

OS18: Flow measurements using PSP/TSP Technique

Chair: H. Nagai

10:45-11:05 OS18-4
Application of Silica-based PSP to Unsteady Pressure Distributions on Delta Wing Surface During Wing Rock
Y. Yamagishi , M. Okawa, T. Ikami, H. Nagai

11:05-11:25 OS18-5
Experimental Study in Supersonic Cavity Flow with Different External Stores
T. T. Chang

11:25-11:45 OS18-6
Investigation of Supersonic Micronozzles with Secondary Flow Injection at Different Locations
Y.-J. Wu, H.-R. Li , C.-Y. Huang

11:45-12:05 OS18-7
Basic Characteristics of Pressure-Sensitive Paint with Metal Nanoparticles
M. Okawa , T. Ikami, T. Yoshihara, K. Watanabe, H. Nagai

EX-4-A

OS9: Biomedical Flow Dynamics

Chairs: T. Nakayama & M. Zhang

10:45-11:00 OS9-12
A Hidden Physics-Informed Multilayer Perceptron Neural Network for Real-Time Prediction of Coronary Hemodynamics
J. Liu , S. Huang, Z. Hu, X. Ding, Y. Liu

11:00-11:15 OS9-13
Fundamental Study on a Flow Resistance Model of Heart Valves in Blood Flow Analysis
K. Ueda , S. Miyauchi, K. Funamoto

11:15-11:30 OS9-14
Fluid-Structure Interaction Analysis of an Internal Carotid Artery Aneurysm
K. Yasuda , K. Matsumoto, M. Ohta, G. Tanaka

11:30-11:45 OS9-15
Effects of Local Changes in Geometric Characteristics and Mechanical Properties of Blood Vessel Wall on Reflected Pulse Waveform Using Fluid-Structure Interaction Analysis
D. Konosu , T. Fukui

EX-4-B

OS22: Fundamentals and Applications of Thermoacoustics

Thermoacoustics 1
Chair: T. Biwa

10:45-12:00 OS22-1 **Invited**
On the Progress of Some Fundamentals and Prototypes of Thermoacoustic/Stirling Heat Engines and Refrigerators at TIPC-CAS
E. Luo , J. Hu, Z. Wu, Y. Chen, L. Zhang, Y. Sun, X. Wang, R. Yang

Wednesday, November 12, 2025

12:15

					11:45-12:00 OS13-21 Fuzzy C-Means Clustering for Two-Phase Flow Pattern Identification in 45-Degree Inclined Narrow Rectangular Channels Learning *T.-W. Chen , I.-H. Lin, C.-C. Hung, S.-W. Chen*	12:00-12:15 OS3-10 Evaluation of Surface Roughening for Si(110) Ultrathin Nanosheet Transistor Channel *Y. Morita* 12:15-12:30 OS3-11 Underlying Perspectives of Positive Temperature Dependence of Photoluminescence Peak Energy in Quantum Structures and Localized States of Semiconductors *T. Ikari , D. Ohori, A. Fukuyama*		11:45-12:00 OS9-16 Performance Evaluation of a Cavopulmonary Assist Device for Fontan Circulation Central Venous Pressure Reduction *A. Z. Md Khudzari , C. Z. Rui, M. I. Jamaluddin, N. S. Shafii, W. N. Syuhada, W. Zahari, S. Saidin, S. Sivalingam* 12:00-12:15 OS9-17 Numerical and Experimental Studies of the Influence of Artificial Aortic Valve Configuration and Posture on Flow Patterns *E. Han , Q. Hou, A. Qiao*	

LUNCH BREAK / 12:10-12:35 **Exhibitor Presentation Session** & 12:35-13:15 **Poster Presentation CRF-27 - CRF-52** @EX-Hall-3B, Exhibition Bldg. (Luncheon Seminar)

13:30

EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals *Chair: H. Zhang*	**OS25: Combustion-generated Pollutants** PAHs and soot *Chair: P. Dagaut*	**OS1: The Third International Symposium on Integrated Flow Science I & III** *Chair: J. Ishimoto*	**OS28: IFS Collaborative Research Forum (AFI-2025)** *Chair: Y. Kaneko*	**OS7: Advances in Simulation Techniques for the Computational Aerosciences** *Chair: Y. Abe*	**OS13: Flow and Energy** *Chair: T. Yamagata*	**OS21: Smart Fluids & Soft Matters and Their Advanced Applications** *Chair: M. Nakano*	**OS18: Flow measurements using PSP/TSP Technique** *Chair: Y. Matsuda*	**OS9: Biomedical Flow Dynamics** *Chairs: Y. Li & J. Liao*	**OS22: Fundamentals and Applications of Thermoacoustics** Thermoacoustics 2 *Chair: Y. Ueda*
13:30-14:00 OS2-46 **Invited** Non-equilibrium Plasma Assisted Catalytic Synthesis of Ammonia *Y. Xu, Z. Chang, Y. Ju* 14:00-14:18 OS2-47 High Temperature Electrolyzer for Advancing Hydrogen and e-Fuels Production in KSA *A. Nechache , S. M. Sarathy* 14:18-14:36 OS2-48 DNS Study on the Blow-off Mechanism of Premixed Ammonia/Hydrogen Flames *T. Tomidokoro , U. A. Medina Martinez, J. Hayashi, H. G. Im* 14:36-14:54 OS2-49 Emission and Flame Structure of Intermediate-Cracking-Ratio Ammonia Premixed Flames *P. Ma , J. Li, S. B. Rojas Chavez, H. Hu, S. Xie, S. Kumar Soni, H. Zhang*	13:30-14:00 OS25-1 **Invited** Formation Mechanism of Polycyclic Aromatic Hydrocarbons from Monocyclic Aromatics with Different Structures *S. Suzuki , A. Matsugi* 14:00-14:20 OS25-2 Analysis of Key Intermediates in the Growth of Polycyclic Aromatic Hydrocarbons *C. Li, B. Yang* 14:20-14:40 OS25-3 The Mechanism of Soot Formation from Resonance-Stabilized Radicals to Covalently Bond Clusters *H. Wang, Z. Wang* 14:40-15:00 OS25-4 On the Formation of PAHs from the Oxidation of Ethylene in a JSR *P. Dagaut , S. Suzuki*	13:30-13:50 OS1-8 The Design of Self-Preheated Burner by Using Numerical Analysis *Y.-R. Wu , S.-Y. Hsu, C.-W. Huang, K.-C. Hsu, J.-W. Liang* 13:50-14:10 OS1-9 CFD-Driven Design of Two-Stage Grouting for Karst Sealing *P. Miao , Z. Fusheng, W. Qiao* 14:10-14:30 OS1-10 Investigation of Contact Methods between Water and Nitrogen Plasma for Sustainable Ammonia Production *Y. Kuwaki , R. Shiraishi, T. Hatayama, S. Sakamoto, C. Yamasaki, Y. Hayamizu* 14:30-14:50 OS1-11 Energy Recovery Rate of an Electric ECS under Cruise Conditions of a Narrow Body Aircraft *N. Tomiyama , K. Akinaga, T. Adachi*	13:30-15:00 **Short Oral Presentation** CRF-53 - CRF-79	13:30-13:50 OS7-26 Three-Dimensional Visualization of Transonic Diffuser Flow by Unsteady Simulation *H.Kodama , M. Okajima, S. Nakao, Y. Miyazato* 13:50-14:10 OS7-27 Coupled-Direction Parallelization Algorithm of Static Aeroelastic Analysis for High Fidelity Analysis *Y. Yatsu , Y. Abe* 14:10-14:30 OS7-28 Data-Driven Model-Order Reduction of Optimized Wing Geometries of Composite Aircraft *R. Urbaniak , Y. Abe, Y. Liu*	13:30-13:45 OS13-22 Numerical Investigation on Rigid and Flexible NACA0015 Airfoil in Pitching-Heaving Motion at Re=10,000 *F. L. Mahendra , M.-J. Chern* 13:45-14:00 OS13-23 Dynamic Response of an Axial Flow Fan to the Pulsating Flow Conditions *N. Nasu , H. Seo, Y. Takebe, A. Kiyama, D. Kang* 14:00-14:15 OS13-24 Reconstruction of Unsteady Flow Characteristics in a Cavitating Inducer under Pulsating Flow Conditions Using 3D Dynamic Mode Decomposition with Control *T. Kimura , T. Ikeda, B. An, M. Nohmi, A. Kiyama, D. Kang* 14:15-14:30 OS13-25 Flow Visualization of Airflow in a Non-Contact Wafer Transport System Equipped with a Thin Vortex Chuck *A. Nakano , S. Funatani, K. Koshiishi, H. Iwasawa* 14:30-14:45 OS13-26 Random Forest Applied to Flow Regime Identification of Two-Phase Flow in a Vertical Rectangular Tube Under Different Vibration Condition *H.-J. Lee, H.-Y. Chen, H. Lee, T.-W. Chen , S.-W. Chen* 14:45-15:00 OS13-27 Image Recognition Using Convolutional Neural Networks for 3X3 Simulated Rod Bundle Two-Phase Flow *H. Lee , W.-C. Tsai, L.-H. Huang, H.-J. Lee, C.-C. Hung, S.-W. Chen*	13:30-14:00 OS21-1 **Invited** Dual-modulus 3D Printing Technology for Magnetorheological Metamaterials *X. Gong* 14:00-14:20 OS21-2 Bidirectionally Adaptive Band Gap of Magnetorheological Metamaterials *H. Wang , X. Lian, H. Deng, X. Gong* 14:20-14:40 OS21-3 Design and Vibration Control Application of Magnetorheological Poly-Stable Metastructure with Tunable Potential Barriers *X. Lian , H. Deng, X. Gong* 14:40-15:00 OS21-4 Direct Ink Writing of Gradient Shear-Stiffening Elastomer for Enhanced Toughness and Impact Resistance *L. Gong , C. Zhao, H. Lu, Q. Zhang, Z. Chen, J. Yang, J. Yang, S. Sun, H. Du, W. Li*	13:30-13:50 OS18-8 Investigation of Low-Speed Flow Characteristics Using Pressure-Sensitive Paint on a NASA TP-1803 Aircraft Model *H.-Z. Lin, W.-J. Chiou , C.-Y. Huang* 13:50-14:10 OS18-9 Application of Temperature-Sensitive Paint to Sub-millimeter Scale Riblet Surface *Y. Ito , T. Ikami, M. Kurita, H. Nagai* 14:10-14:30 OS18-10 Analysis of Base Pressure Fluctuations on Dynamic Behavior of Re-entry Capsules *R. Hosaka , D. Yamashita, M. Okawa, T. Ikami, Y. Egami, K. Yamada, H. Nagai* 14:30-14:50 OS18-11 Flow Field Prediction Method Based on Pressure-Sensitive Paint Data *M. Kurosawa , M. Takagi, R. Kokubo, T. Ikami, Y. Egami, H. Nagai, T. Kashikawa, K. Kimura, Y. Takita, Y. Matuda*	13:30-13:45 OS9-18 High Intensity Ultrasound Control Using Neural Operators *P. Guida , W. L. Roberts* 13:45-14:00 OS9-19 Understanding the Physical Aspects Behind Bio-fluid Dynamics Through Combination of In Vitro Experiment and In Silico Simulation *N. K. Putra , P. D. Widhi Praseiya, F. A. Dinata, D. Setianto* 14:00-14:15 OS9-20 Physiological Effects of Microbubble Bathing *H. Katagiri , H. Narita, H. Hasegawa, S. Uemura, Y. Takei* 14:15-14:30 OS9-21 A Numerical Simulation Study of Three Surgical Procedures for Aortic Root Replacement *Q. Wang, X. Luo, J. Qiu, S. Hu, Y. Zhang , T. Du, A. Qiao* 14:30-14:45 OS9-22 Modeling Aqueous Humor Dynamics: Unveiling the Role of Uveoscleral Outflow *M. Albadawi , M. G. AbdElKader, Y. Abuouf, A. Khaled, N. Youssef, N. Mahfouz, M. Tarek, R. Yamaguchi, M. Ohta* 14:45-15:00 OS9-23 Combining Control-Based Physiological Modeling with Remote Monitoring for Specific COPD Management *A. Saini, Shazmani*	13:30-13:45 OS22-2 Equivalent Load Analysis Using Orifice Plate in Liquid Piston Stirling Engine Loaded with Self-Rectifying Turbine *J. Tomihira , H. Kusudo, E. Shoji, T. Biwa, P. Murti, S. Okuhara, M. Takao* 13:45-14:00 OS22-3 Evaluation of Minor Losses in Oscillatory Liquid Metal Flow through a U-Tube with a Rectangular Section *W.-C. Lyu , S.-H. Hsu* 14:00-14:15 OS22-4 Acoustic Impedance Measurement of a Water Pumping Line Driven by Oscillatory Flow *C.-Y. Wang, S.-H. Hsu, Y.-H. Lu* 14:15-14:30 OS22-5 Numerical Study of a Pulse Tube Cooler Driven by a Liquid-Piston Stirling Engine *P. Murti , T. Biwa* 14:30-14:45 OS22-6 Numerical Simulation of a kW-class Beta-Type Stirling Heat Pump Based on a CFD Model *H.-W. Chiu , S.-Y. Shen, H.-S. Yang* 14:45-15:00 OS22-7 Analysis on Ultra-High Temperature Heat-Driven Thermoacoustic Heat Pump *Y. Yang , T. Wu, Y. Hu, H. Chen, R. Yang, E. Luo*

15:00

COFFEE BREAK @ EX-Hall-3B

Wednesday, November 12, 2025

	EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
15:15	**OS28: Fluids Science Research Award Lectures** *Chair: K. Maruta*	**OS25: Combustion-generated Pollutants** Ammonia *Chair: C. Rousselle*	**OS1: The Third International Symposium on Integrated Flow Science I & III** *Chair: J. Ishimoto*	**OS28: IFS Collaborative Research Forum (AFI-2025)**	**OS29: IFS Lyon Center Collaborative Research Forum** *Chairs: J.-Y. Cabaille and T. Uchimoto*		**OS21: Smart Fluids & Soft Matters and Their Advanced Applications** *Chair: S. Sun*	**OS18: Flow measurements using PSP/TSP Technique** *Chair: H. Nagai*	**OS11: Microfluidics and Microphysiological Modeling** *Chair: T. Fukui*	**OS22: Fundamentals and Applications of Thermoacoustics** Thermoacoustics 3 *Chair: G. Chen*
	15:15-15:45 FRA-1 Turbulent Dispersion and Combustion Modeling: Enabling Clean Power and Novel Wildfires Understanding *E. Mastorakos* 15:50-16:20 FRA-2 Fully Conservative Finite Difference Schemes for Unsteady Turbulence Simulations *Y. Morinishi*	15:15-15:35 OS25-5 Insight into NOx Reduction Mechanisms in Ammonia Combustion using Oxygen-free Spherical Flame Propagation and Shock-tube Autoignition Methods *Y. Li , W. Li, S. Liu, B. Hussain* 15:35-15:55 OS25-6 Study on the Effects of Ozone Addition on Combustion Stability and NOx Emission Characteristics in Premixed NH_3/Air Flames *C. Gu , L. Guo, B. Wang, X. Zou, M. Zhai*	15:15-15:35 OS1-12 Investigation of the Aerodynamic Characteristics of a Cylindrical Wing using Wind Tunnel Testing and Free Flight Testing *K. Oguchi , K Hijiri, M. Nakano, J. Ishimoto, T. Adachi, K. Hirata* 15:35-15:55 OS1-13 Aerodynamics and Flow of Ring Wing by Numerical Simulation *K. Hijiri , K. Oguchi, T. Adachi, J. Ishimoto, M. Nakano, K. Hirata* 15:55-16:15 OS1-14 Forced Synchronization of Thermal Convection in Rotating Annulus *I. Oshima , Y. Kawamura* 16:15-16:35 OS1-15 Synergistic Enhancement of Electrochemical Performance in Straw-Derived Biochar via Molten Salt Pyrolysis and Nano-Silica Doping for Supercapacitor Electrodes *M. Zhai , P. Fan, R. Xie, X. Li, L. Guo*	15:15-16:15 **Poster Presentation** CRF-53 - CRF-79	15:15-16:05 OS29-1 **Invited** Comparative Analysis of Ferroelectric and Ferromagnetic Barkhausen Noise for Mechanical Stress Evaluation *B. Ducharne , G. Sebald, T. Uchimoto* 16:05-16:25 OS29-2 The Role of Cation on the Bending of Ionic Liquid Doped Elastomer Under Constant Electric Field *G. Coativy , L. Seveyrat, V. Perrin, D. Djoumoi, D. Albertini, J. Courbon, H. Takana, J.-Y. Cavaillé, G. Sebald, K. Ryskulova, S. Livi, F. Dalmas* 16:25-16:45 OS29-3 Bending Strength Increase of Silicon Carbide by Density Gradient Structure Design by Direct Ink Writing *H. Kurita , T. Kudo, T. Kanno, Z. Wang, T. Uchimoto, H. Noto, L. Gremillard, S. Cottrino, F. Narita*		15:15-15:45 OS21-5 **Invited** Heat to Power Energy Conversion using Thermomechanical Polymers: an Experimental Proof of Concept *G. Sebald , G. Lombardi, G. Coativy, A. Komiya* 15:45-16:05 OS21-6 Simulation and Analysis of Mechanical Properties of Magnetic Fluids Based on Spherical Chain Particle Model *B. Liu , K. Wang, H. Deng, X. Gong* 16:05-16:25 OS21-7 An Omni-Directional Magnetorheological Semi-active Inerter for Vibration Control *K. T. Tran , L. Deng, W. Li* 16:25-16:45 OS21-8 An Innovative Rotary Magnetorheological Inerter Featuring Negtive Stiffness and Variable Damping *W. Xie , L. Deng, W. Li*	15:15-15:35 OS18-12 Numerical and Experimental Analysis of Uniform Temperature Control in Microchannel Flow *Y.-W. Wu, C.-Y. Li , C.-Y. Hunag, T. -M. Liou*	15:15-15:35 OS11-1 Numerical Simulation for Suspension Rheology of Deformable Microswimmers *K. Kubo , T. Omori, T. Ishikawa* 15:35-15:55 OS11-2 Numerical Simulation on the Migration of a Soft Particle in non-Newtonian Channel Flow *R. Ishida , T. Fukui* 15:55-16:15 OS11-3 Simulating Occlusive Tumor Behavior Under Flow in a Tapered Vessel-on-a-chip Model *S.-Y. Xu , K. Sone, T.-Y. Tu, K. Funamoto* 16:15-16:35 OS11-4 Development of a Perfusion Culture System for Organoid Chips to Mimic Human Placental Structures *K. Kubo , K. Funamoto, D. Yoshino*	15:15-15:30 OS22-8 Entropy Generation During Energy Conversion in Phase-Change Thermoacoustic Devices *A. Lemster, N. Blanc, G. Z. Ramon* 15:30-15:45 OS22-9 Acoustically Induced Mass Transfer in the Wet Stack of a Standing-Wave Thermoacoustic Cooler *S. Sekimoto , H. Izumi, Y. Ueda* 15:45-16:00 OS22-10 Performance of a Transcritical CO_2 Standing-wave Thermoacoustic Engine with Multi-section Wire Mesh Stacks *Y. Chen , T. Jin* 16:00-16:15 OS22-11 A Novel Supercritical CO_2 Thermoacoustic Pump: Flow Rate Modeling and Enhancement *S. Yue, Z.-c. Hu* 16:15-16:30 OS22-12 Investigation of Thermoacoustic Separation of Helium–Argon Mixture in Stack *M. Li , S. Murakami, H. Kusudo, T. Biwa, E. Shoji* 16:30-16:45 OS22-13 Effect of Acoustic Impedance Boundary Conditions on Thermoacoustic Gas Mixture Separation in a Narrow Tube *T. Otomo , S. Sekimoto, Y. Ueda*
16:45										
	COFFEE BREAK @ EX-Hall-3B									
17:00	EX-Hall-1A									
	Plenary Lectures III 17:00-17:55 "Reduced-Order High Fidelity Simulations of Reacting Flows Using Low Dimensional Manifolds and Machine Learning" *Hong G. Im* Chair: Epaminondas Mastorakos									
17:55										
19:00	19:00-20:30 **Banquet** @ Hotel Metropolitan Sendai, JR-EAST (not Hotel Metropolitan Sendai, SENDAI-EAST, JR-EAST)									
20:30										

Thursday, November 13, 2025

	EX-Hall-1A	EX-Hall-1B	EX-Hall-3A	EX-Hall-3B	EX-1	EX-2	EX-3-A	EX-3-B	EX-4-A	EX-4-B
9:00	**OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals** *Chair: T. Tomidokoro*	**OS25: Combustion-generated Pollutants** DME and engines *Chair: Z. Wang*			**OS29: IFS Lyon Center Collaborative Research Forum** *Chairs: G. Feuillard and G. Sebald*	**OS17: Supercritical Fluid** *Chair: Y. Kanda*	**OS21: Smart Fluids & Soft Matters and Their Advanced Applications** *Chair: X. Gong*	**OS18: Flow measurements using PSP/TSP Technique** *Chair: C.-Y. Huang*	**OS11: Microfluidics and Microphysiological Modeling** *Chair: K. Funamoto*	**OS22: Fundamentals and Applications of Thermoacoustics** Thermoacoustics 4 *Chair: S. Zhu*
	9:00-9:18 OS2-50 Combustion and NO_x Formation Characteristics of CH_4/N_2O Opposed-jet Diffusion Flames *C.-Y. Liu , H.-Y. Shih* 9:18-9:36 OS2-51 Investigation on Extinction Stretch Rate and NO Formation for NH_3/Air Counterflow Premixed Flames at Elevated Temperature and Pressure *Y. Kitagawa , H. Nakamura, H. Takeishi, A. Hayakawa* 9:36-9:54 OS2-52 Extinction and Differential Diffusion in KAUST Piloted Ammonia-Hydrogen Jet Flames: A Principal Component Transport Modeling Approach *S. Abdelwahid , I. Trabulsi, M. Bawazeer, M. Rafi Malik, J. Guo, F. E. Hernández-Pérez, H. G. Im* 9:54-10:12 OS2-53 Oxidation Characteristics of NH_3/Lower Hydrocarbon Mixtures Using a Micro Flow Reactor with a Controlled Temperature Profile *Y. Ishida , K. Tamaoki, K. Kanayama, T. Tezuka, H. Nakamura* 10:12-10:30 OS2-54 Numerical Simulation on the Stability (Combustion) and Emission Characteristics of Ozone-assisted Premixed NH_3/Air Swirl Flames *M. Cai, M. Zhai , D. Yang, X. Zou, L. Guo*	9:00-9:20 OS25-7 Hydrogen Enrichment Effects on Flame Dynamics and Combustion Characteristics in DME- and Ethane-fueled micro-TPV systems *J. F. Chang, Z. X. Wang, J. Wang* 9:20-9:40 OS25-8 DME – Combustion Enhancer for Ammonia Engines *C. Mounaim Rousselle , G. Duraisamy* 9:40-10:00 OS25-9 Development of a Model for Predicting Particle Size Distribution and Experimental Validation using Engine Tests under Cold-Start Conditions *J. Hashimoto , K. Ito, S. Matsumae, T. Kuboyama, Y. Sakai, K. Akihama* 10:00-10:20 OS25-10 Effects of a Near-Wall Cooling Air Film on the Formation of Carbon Monoxide *A. Blaise, G. Godard, F. Grisch, P. Xavier*			9:10-9:30 OS29-4 Analysis of the Drift Velocity of Carbon in Iron Crystal under High Electric Fields *R. Onozuka , P. Chantrenne, T. Tokumasu* 9:30-9:50 OS29-5 Neural Network-based Prediction of Flaw Parameters in Periodic Rough Surface Using Ultrasound Reflection Data *K. Fujii, H. Nakamoto, P. Guy, T. Uchimoto* 9:50-10:10 OS29-6 Study of Steel Hydrogen Embrittlement Using Ultrasonic Technique *G. Feuillard , J. Toupin, H. Achdjian, J. Bustillo, L. Leffray, N. Mary, T. Uchimoto* 10:10-10:30 OS29-7 Elucidation of Degradaion Mechanism of VIP Performance by Aging Effect *A. Komiya , M. Groux, G. Foray*	9:20-9:40 OS17-1 **Invited** Gas-Liquid Crossover and Density Fluctuation Effects in Supercritical Fluid Plasmas *H. Muneoka* 9:40-10:00 OS17-2 Preliminary Measurements on Supercritical Region CO_2 Refractive Index and Boundary Film Thickness by Spectroscopic Ellipsometer *H. Liu , A. Komiya, L. Chen* 10:00-10:20 OS17-3 Pore-Scale Insight into CO_2 Bubble Morphology and Dissolution Mass Transfer Coupling *Y. Hu , Y. Kanda*	9:20-9:50 OS21-9 **Invited** Controllable Liquid Metal Microparticle Production with Filter-Sieve Generators *Q. Zhang, H. Lu, W. Li* 9:50-10:10 OS21-10 Optimization Characterization Method for Piecewise Parametric Modeling of Magnetorheological Dampers *J. Li , B. Liu, X. Lian, S. Sun, X. Gong* 10:10-10:30 OS21-11 Investigation of Wheel-Rail Wear Reduction by Using MRF Rubber Joints with Bidirectional Adjustable Stiffness *N. Gong , J. Yang, S. Sun*	9:00-9:20 OS18-13 Temperature Sensitivity of Ru(phen) and Ru(trpy) Dye with Several Kinds of Binder Materials at Cryogenic Temperature *S. Someya , Y. Morimoto, T. Koyama* 9:20-9:40 OS18-14 Investigation of Cryo-TSP Formulation for Cryogenic Flows *T. Yokouchi , T. Ikami, K. Odagiri, H. Ogawa, H. Nagai* 9:40-10:00 OS18-15 Temperature-Sensitive Paint Visualization of Liquid-Film Evaporation in a Three-Phase Contact Line *S. Fujiwara , T. Fukunaga, Y. Abe, Y. Egami, O. Kawanami, Y. Matsuda* 10:00-10:20 OS18-16 Investigation of Temperature-Sensitive Organic Dyes for Two-Color PSP *Y. Egami , N. Yoshii, R. Kanei, T. Yamada, Y. Matsuda*	9:00-9:45 OS11-5 **Invited** Advances in 3D-Printed Microfluidic Devices: Methods, Materials, and Applications *M. Hashimoto* 9:45-10:05 OS11-6 Nanofluid Droplet Generation and Osmosis-Induced Shrinking in a Single Microfluidic Device towards Continuous Reflective Pigment Production *K. Kurioka , T. A. J. Welling, K. Inoue, H. Namigata, K. Watanabe, K. Suga, K. Funamoto, D. Nagao* 10:05-10:25 OS11-7 The Phase Field and Level Set Methods Applied to Droplet Formation in T-Junction Microchannel *M. A. W. Adhicahya , R. Irwansyah, Harinaldi*	9:15-9:30 OS22-14 Estimating Amplitude Saturation in a Standing-Wave Thermoacoustic Engine with Nonlinear Friction Losses *S.-H. Hsu , Y.-C. Peng* 9:30-9:45 OS22-15 Oscillation Characteristic of Electricity-Feedback Traveling-Wave Type Thermoacoustic Generator based on a Four-Terminal Network Analysis *Y. Kobayashi* 9:45-10:00 OS22-16 Heat Transfer Characteristics of Tubular Heater with Spiral Fins Under Oscillatory Flow in Stirling Engine *Q. Jin , H. Sun, W. Xiao, Y. Cheng, Y. Ma, G. Yu, E. Luo* 10:00-10:15 OS22-17 Research on the Enhanced Heat Transfer Performance of Tear-Drop Structures Under Alternating Flow in Stirling Engines *W. Xiao , G. Yu, E. Luo* 10:15-10:30 OS22-18 Study of the Thermoacoustic Effects in a Single-Piston Stirling Engine *Y.-C. Lin , P.-H. Yang, H.-S. Yang*
10:30	COFFEE BREAK @ EX-Hall-1A									
10:45	**OS2: The Third International Symposium on Integrated Flow Science II: Combustion Technology and Fundamentals** *Chair: C. M. Gregoire*	**OS25: Combustion-generated Pollutants** Other pollutants *Chair: Y. Li*			**OS29: IFS Lyon Center Collaborative Research Forum** *Chairs: A. Komiya and K. Funamoto*	**OS17: Supercritical Fluid** *Chair: Y. Hu*	**OS21: Smart Fluids & Soft Matters and Their Advanced Applications** *Chair: G. Sebald*		**OS11: Microfluidics and Microphysiological Modeling** *Chair: T. Omori*	**OS22: Fundamentals and Applications of Thermoacoustics** Thermoacoustics 5 *Chair: E. Luo*
	10:45-11:03 OS2-55 Generation of a Detailed NH_3 Combustion Mechanism Using Micro Flow Reactor Speciation Data *M. Kovács , H. Nakamura* 11:03-11:21 OS2-56 Staged Injection of Ammonia into Methane Flames for Emissions Reduction *H.-Y. Wu, L.-H. Huang, M.-H. Wu, A. Fauzy , F.-H. Wu, W.-D. Hsieh* 11:21-11:39 OS2-57 Impacts of Thermochemistry on Model Prediction for NH_3 Oxidation *K. Tamaoki , H. Nakamura* 11:39-11:57 OS2-58 Extinction Limits of Non-Premixed $NH_3/H_2/N_2$ Counterflow Flames: Effect of Oxidizer Preheating and Dilution *A. S. Singh , K. Kanayama, T. Tezuka, H. Nakamura* 11:57-12:15 OS2-59 Partially Premixed Combustion of Ammonia-Hydrogen-Nitrogen Blends *S. B. Rojas Chavez , S. Kumar Soni, P. Ma, J. Li, H. Zhang*	10:45-11:05 OS25-11 Study on Vortex-Dispersed Combustion Characteristics and NOx Emissions of Natural Gas under Low-Oxygen Partial Pressure Conditions *X. Zou , P. Wang, C. Gu, L. Gu, L. Guo, M. Zhai* 11:05-11:25 OS25-12 Furans Formation and Atmospheric Implications *P. Dagaut*			10:45-11:05 OS29-8 Monitoring Eukaryotic Cell Functions under Various Hypoxic Conditions with Microfluidic Based Oxygenators *N. Ghazi, N. Kawahara, S. Hirose, S. Yanagita, K. Funamoto, G. Anjard, J.-P. Rieu* 11:05-11:25 OS29-9 Investigation of a Predictive Therapeutic Response Under Controlled Oxygen Condition in Cancer Patient-Derived Organoids *A. Aratake, M. Roinard, J.-P. Rieu, K. Funamoto, N. Aznar* 11:25-11:45 OS29-10 Turing Patterns on 3D Rigid Materials *F. Kato, H. Koibuchi , E. Bretin, C. Carvalho, R. Denis, S. Masnou, M. Nakayama, S. Tasaki, T. Uchimoto* 11:45-12:05 OS29-11 Identification of Transient Aspect in Taylor Vortex Structures between Double Cylinders using DMD *H. Yata , K. Akinaga, A. Komiya, T. Adachi* 12:05-12:25 OS29-12 Mass Transfer Enhancement and Control by using Ultrasound Induced Flow *R. Zhu , V. Botton, S. Miralles, A. Komiya*	10:45-11:05 OS17-4 Experimental and Numerical Analysis of CO_2-CO_2 Jet and CO_2-N_2 Jet Mixing Flows Around the Supercritical Region *X. Li , W. Xi, L. Chen* 11:05-11:25 OS17-5 Measurement of High-speed Supercritical CO_2 Convective Density Field with Local Heat Input from Bottom Side by Pixel-Arrayed Phase-Shifting Interferometer *Z. Liang , S. Li, G. Zeng, R. Zhang, Y. Kanda, A. Komiya, L. Chen* 11:25-11:45 OS17-6 Interferometric Measurement and Numerical Analysis of Converging-Diverging Channel Flow of Supercritical CO_2 *Z. Xu , H. Wang, L. Chen* 11:45-12:05 OS17-7 Key Evaporation of Composite Fuel Droplets Under Sub-/Supercritical Environment *K. Ragui , L. Chen, W. Huangsai, W. Lida, L. Guangze, A. Komiya*	10:45-11:15 OS21-12 **Invited** Research and Application of Negative Stiffness Characteristics in Active Vehicle Suspension *L. Pan, L. Jiang, T. Hu, J. Li, N. Gong, X. Gong, M. Nakano, S. Sun* 11:15-11:35 OS21-13 Hybrid Torque Control Strategy with Gaussian Process Feedforward for a Novel MRF Dual-Clutch of an Electric Vehicle Transmission *H. Zhang, L. Deng , W. Li, H. Du*		10:45-11:05 OS11-8 Microfluidic Experiment on the Response of a Vascular Endothelial Monolayer to Inflammatory and Severe Hypoxic Stimuli *K. Sone , A. Funatsu, S. Sampei, K. Funamoto* 11:05-11:25 OS11-9 Observation of the Migration of Neutrophil-like HL-60 Cells under Controlled Dissolved Gas Concentrations by Using a Microfluidic Device *T. Nakamura , K. Funamoto* 11:25-11:45 OS11-10 The Behavior of the Multi-microalgae in the Microchannel *C.-H. Chuang , J.-X. Shiu* 11:45-12:05 OS11-11 Evaluation of Chondrogenesis in 3D Micromass Culture by Using Microfluidic Devices *S. Yanagita , K. Funamoto*	10:45-11:00 OS22-19 Linear Stability Analysis of a Combustion Oscillation System with a Delayed Feedback Tube *Y. Takabatake , H. Kusudo, E. Shoji, T. Biwa* 11:00-11:15 OS22-20 Amplification of Self-Excited Acoustic Oscillations in Standing-Wave Thermoacoustic Engines *L. Gu, K. Wang, Y. Zhang, G. Chen* 11:15-11:30 OS22-21 Investigation of Acoustic Power Amplification Mechanisms and Performance Enhancement in Thermoacoustic Amplifiers *W. Sun , G. Chen, L. Tang, K. C. Aw* 11:30-11:45 OS22-22 Experimental Study of Cavity Tone with a Heated Honeycomb Stack *Y. Hosoya , T. Kuraishi, H. Yokoyama*
12:15	LUNCH BREAK									

Thursday, November 13, 2025

	EX-Hall-1A	
13:30		13:30
	Liaison Office Session & C2C Session	
16:00		16:00

OS27: The 21st International Students / Young Birds Seminar on Multi-scale Flow Dynamics

OS27-1: **Thermodynamic Analysis of Closed-cycle MHD Power Generation System for Output Adjustment**
H. Kikuta, K. Tabuchi, T. Fujino, H. Takana

OS27-2: **Temperature-dependent Solar Absorption Characteristics of Thermally Oxidized Stainless Steel for Photothermal Applications**
K. Matsui, A. Sakurai

OS27-3: **Surface Temperature Fluctuations in Fin-type Pulsating Heat Pipe by Infrared Imaging**
T. Sasagawa, K. Ichikawa, M. Miura

OS27-4: **Fundamental Experiments on the Thermodynamic Suppression Effects of a Cavitation Instability Suppression Device**
K. Eki, S. Moriya, J. Okajima, Y. Iga

OS27-5: **Combined Evaluation of Radiative and Conductive Heat Transfer for Regolith Layer**
S. Kamiya, K. Kawai, S. Tachikawa, H. Gonome

OS27-6: **Spectral Switching using Thermosensitive Gel/SiO_2 Pickering Microparticles**
Y. Koizumi, T. Nagata, Y. Nonomura, A. Masuhara, H. Gonome

OS27-7: **Directional Mid-infrared Thermal Emitters based on Planar Thin-film Structures**
A. Kakei, A. Sakurai

OS27-8: **Estimation of Heat Generation in Spacecraft using Graph Neural Networks**
D. Yamashita, T. Ikami, H. Nagai

OS27-9: **Quantifying Stripe Pattern Formation in Evaporating Sugar-solution Drops on Heated Surfaces via Confocal Laser Microscopy**
K. Tajiri, T. Miyagawa, M. Shirota, Y. Saito, Y. Matsukawa, H. Aoki, M. Daikoku, J. Fukuno, T. Okabe

OS27-10: **Computational Study of Thickness Effect on Aerodynamic Performance of a Flat Plate at Low Reynolds Number Flow**
T. Kimura, K. Funada, S. Inoue, D. Sasaki, Y. Kawamoto, M. Okamoto, T. Ikami, H. Nagai

OS27-11: **Numerical Simulation of Amine Absorbent Flow considering Property Changes in Random Packed Column**
G. Tashiro, Chairunnisa, T. Miyazaki, Y. Uehara, H. Machida, K. Norinaga, Y. Saito

OS27-12: **Experimental Study of Unsteady Flow Field of a Pitching Airfoil at Low Reynolds Number**
G. Yiting Lim, T. Ikami, H. Nagai

OS27-13: **Aerodynamic Testing with a Wind Tunnel Model on a Roadable Aircraft using FDM 3D Printer**
Y. Shinzato, S. Morizawa

OS27-14: **Simulation of Plasma-contacted Liquid Flow Including Short-Lived Reactive Species with Chemical Reactions**
S. Murakami, S. Tomita, J. Yoshikawa, K. Barman, M. Sugimoto, S. Sasaki, H. Komen, H. Muneoka, T. Kaneko, M. Shigeta

OS27-15: **Investigation of the Effects of Surface Plastic Skin on Lava Flow Dynamics using SPH Simulation**
S. Tomita, T. Sato, S. Murakami, J. Yoshikawa, M. Sugimoto, H. Komen, M. Shigeta

OS27-16: **Characterizing Horizontal-axis Wind Turbine Aerodynamics across Different Tip Speed Ratios**
Y. Li, T. Sha, R. Hung

OS27-17: **Curved Laser Sheet Visualization of Wall-bounded Vortical Structures over a NACA0012 Airfoil**
R. Mise, T. Ikami, H. Nagai

OS27-18: **High-speed Infrared Measurements to Estimate Interfacial Temperature during Transient Contact between Two Materials**
K. Kudo, S. Koishikawa, T. Kogawa, Y. Kita, T. Okabe

OS27-19: **Heat Transfer Analysis and Visualization of Nitrogen Pool Boiling under Pressure Variation**
S. Tokunaga, M. Kubota, J. Okajima

OS27-20: **Evaluation of the Effect of Humidity on Heat Stroke by a Thermoregulation Model**
K. Kitamura, T. Kogawa, H. Gonome

OS27-21: **Numerical Analysis Approach to Heat Flux Enhancement by Pyramid Structures**
R. Miura, K. Kikuchi, S. Ishii, A. Sakurai

OS27-22: **Experimental Study on Flame Structure of Liquid Ammonia Co-flow Combustion under Oxygen-enriched Conditions**
J. Liang, Y. Chen, T. Kudo, A. Hayakawa, H. Kobayashi

OS27-23: **Ultra-high-speed Measurement of Transient Heat-flux Distributions during Droplet Impact on Heated Surfaces**
Y. Kudo, H. Echigo, M. Shirota, T. Okabe

OS27-24: **Characterization of Elastocaloric Effect of Natural Rubber under Wide Range Temperature and Elongation Conditions**
T. Oiri, G. Sebald, G. Coativy, A. Komiya

OS27-25: **Effect of Weak Forced Convection on Natural Convection Heat Transfer of Optimized Heatsink**
R. Sato, A. Komiya

OS27-26: **Visualizing Convection and Vortex Generation from Stripes Illuminated by Halogen Lamps using Background Oriented Schlieren (BOS)**
K. Naganuma, Y. Iseki, T. Sawamura, S. Ogasawara, T. Kogawa

OS27-27: **Characteristics of an Axial Flow of a Vortex in Homogeneous Isotropic Turbulence**
K. Sakurai, K. Nakayama

OS27-28: **Experimental and Numerical Performance Evaluation of a Small Flapping-wing Air Vehicle**
Y. Arai, W. Yamazaki

OS27-29: **Cross-sectional Design Optimization and Three-dimensional Effect Evaluation for Small Vertical Axis Wind Turbines**
A. Kadoguchi, S. Imai, W. Yamazaki

OS27-30: **Optimization of Multi-element Airfoil Configuration Integrating Experimental and Numerical Analysis Data**
M, Kanno, S. Fujisaki, W. Yamazaki

OS27-31: **High-Reynolds-number Compressible Flow Simulation using Immersed Boundary Method and Wall Function on Adaptive Cartesian Grids**
H. Chen, Z. Wang, L. Tian, J. Liu, N. Qin, N. Zhao

OS27-32: **A Study on Evaluation Method for the Time Variation of Tip Leakage Flow in Liquid Rocket Inducer**
K. Ikeda, K. Tamura, S. Kawasaki, Y. Iga

OS27-33: **Aerodynamic Testing of a Mars Aircraft Wing Model using PC-PSP**
R. Hanyuu, K. Shibata, D. Numata

OS27-34: **Development of Phase-field Lattice Boltzmann Method for Gas-Liquid Multiphase Evaporation Simulation in Porous Media**
Y. Ishikawa, J. Yoshikawa, H. Muneoka, M. Sugimoto, M. Shigeta

OS27-35: **Studies of High-pressure Ethane Oxidation up to 100 atm using a Supercritical-pressure Jet-stirred Reactor**
R. Bo, S. Guo, H. Zhao

OS27-36: **Three-dimensional Evaluation of Flake Particle Migration Behavior during Liquid Droplet Impact on a Solid Wall**
A. Kurogi, N. Hashiguchi, T. Miyagawa, T. Okabe, M. Shirota, Y. Matsukawa, H. Aoki, M. Daikoku, J. Fukuno, Y. Saito

OS27-37: **Simulation of Water Droplet Motion with Anisotropic Wettability Using Smoothed Particle Hydrodynamics**
R. Shinozaki, Y. Nishio

OS27-38: **Effect of the Number of V-shaped Slits on Atomization near an Air Spray Gun Nozzle**
K. Mikami, T. Miyagawa, W. Kurebayashi, N. Serizawa, T. Teraoka, M. Shirota

OS27-39: **Quantitative Analysis of Flake Content in Inkjet via Internal Flow Visualization**
Y. Arata, T. Miyagawa, T. Okabe, M. Daikoku, Y. Matsukawa, H. Aoki, Y. Saito, J. Fukuno, M. Shirota

OS27-40: **Evaluation of Wetting and Evaporation Characteristics at 3-phase Contact Region in Cryogenic Fluids with Moving Contact Line Evaporation Model**
T. Akita, P. Stephan, J. Okajima

OS27-41: **Spatio-temporal Imaging of Water Precursor Film Behavior at Interfaces by Phase Shifting Ellipsometry**
H. Narita, A. Komiya

OS27-42: **Large Deformation Analysis of Flexible Wings using Modal Rotation Method**
N. Nagai, K. Shimura, Y. Nishizaki, T. Yamada, K. Otsuka

OS27-43: **Monitoring and Evaluation of Hydrogen-assisted Crack Propagation in Austenitic Stainless Steels using Acoustic Emission**
R. Matsumoto, T. Uchimoto, K. Ito, H. Enoki, T. Iijima

OS27-44: **Enhanced Near-Field Thermal Radiation in Multilayered hBN–Graphene Structures without Vacuum Gaps**
J. Minaki, M. Suzuki, A. Sakurai

OS27-45: **Scattering Behavior of Cu, Sn-Enriched Droplets from Molten Metal Pool under Nitrogen-containing Arc Plasma**
T. Gunji, T. Ito, K. Terashima, J. Yoshikawa, M. Sugimoto, M. Shigeta, H. Muneoka

OS27-46: **Effect of Ligand Structure on Interfacial Behavior at the Nanoscale Interface between Surface-modified Ag and Curing Agent**
Y. Kurosawa, T. Saito, Y. Okada, M. Inutsuka, C. Tokoro, E. Shoji, M. Kubo, M. Kubo

OS27-47: **Molecular Insights into Thermal Conduction Mechanisms in Sugar Alcohol Phase Change Materials**
S. Cheng, D. Surblys, T. Ohara

OS27-48: **Quantitative Analysis of Convective Mass Transfer near the Gas-liquid Interface in CO_2 Absorption into Ionic Liquid**
S. Gunji, Y. Kanda, A. Komiya

OS27-49: **Machine Learning-based Vibration Control of Flexible Space Structures using Magnetostrictive Transducers with Negative Inductance Circuits**
S. Solehuddin, Y. Kobayashi, R. Habe, R. S. Adyatama, Y. Hara, K. Makihara

OS27-50: **Real-time Moving Morphable Components Topology Optimization using Neural Networks**
Y. Matsumoto, M. Kawai, A. Komaba, K. Otsuka

OS27-51: **Extrapolation Predictions using Physics-informed Neural Networks (PINNs) for Shock Wave Propagation based on the Burgers Equation**
S. Nakama, S. Morizawa

OS27-52: **Homogenization Method based on Conservative Physics-informed Neural Network for Thermal Analysis**
R. Kato, S. Eguchi, Y. Hara, K. Makihara, K. Otsuka

OS27-53: **Reinforcement Learning-based Control of Drop Position in Inkjet Printing**
R. Yamamoto, T. Miyagawa, M. Shirota

OS27-54: **A Study on Droplet Breakup Behavior and its Electrical Characteristics 2nd Report, Formation of Uniform Droplets by Vibration Method**
Y. Mizuguchi, Y. Kurihara, M. Daikoku, T. Miyagawa, T. Okabe, M. Shirota, Y. Matsukawa, H. Aoki, Y. Saito, J. Fukuno

OS27-55: **Development of High-performance Underwater Drone (ROV)**
T. Kume, J. Mizuno, Y. Sasaki, T. Ota

OS27-56: **A Study on the Extension of Topology Optimization Methods using Moving Morphable Components**
M. Kawai, Y. Matsumoto, A. Komaba, K. Otsuka

OS27-57: **Semi-Active Vibration Control of Space Structures with Disturbance Estimation by Interacting Multiple Model**
T. Morikawa, M. Zhou, K. Yamao, Y. Hara, K. Makihara

OS27-58: **Subspace Identification of Frequency-domain State Space Models using Expectation-maximization Algorithm**
X. Li, T. Tang, H. Saito, T. Matsukura, K. Suzuki, Y. Hara, K. Makihara

OS27-59: **Performance Evaluation of Supersonic Transport Considering Uncertainties of Flight Conditions and Atmospheric Conditions**
F. Asano, W. Yamazaki

OS27-60: **Molecular Dynamics Analysis of Hydrophobic Modified DNA Membrane Penetration via Lipofection**
S. Kurosawa, T. Mabuchi

OS27-61: **Fundamental Characterization of Sulfuric-Acid-Type DP-AA-PSP**
K. Yoneyama, H. Takata, Y. Kawamata, T. Kawashima, D. Numata

OS27-62: **Effect of Titanium Dioxide Particle Size on the Characteristics of PC-PSP**
K. Bando, T. Takizawa, D. Numata

OS27-63: **Application of Sulfuric-Acid-Type DP-AA-PSP to Aerodynamic Testing**
H. Takata, K. Yoneyama, Y. Kawamata, T. Kawashima, D. Numata

OS27-64: **Fast Damage Detection Using Recursive Subspace Identification with Forgetting Factor for Structural Health Monitoring**
H. Saito, T. Tang, X. Li, T. Matsukura, K. Suzuki, Y. Hara, K. Makihara

OS28: The 25th International Symposium on Advanced Fluid Information (AFI-2025)
IFS Collaborative Research Forum

CRF-1: **Numerical Studies for Plasma Dynamics on a Space Propulsion System**
M. Takahashi, S. Uno, K. Sakamoto, K. Ito, H. Suzuki, H. Nagai

CRF-2: **Space Debris Shield Performance of Partially Cured Inflatable Structures**
Y. Sugiyama, Y. Yamakoshi, K. Wakai, K. Ohtani, Y. Hara, K. Makihara

CRF-3: **Four-Dimensional Density Measurement in Unsteady Flow Field Around a Re-Entry Capsule Model by Multi High-Speed Camera BOS Systems**
R. Miyazaki, M. Ikawa, M. Ota, T. Inage, M. Yamagishi, K. Ohtani, H. Nagai

CRF-4: **RF Energy Harvesting via Orthogonal Dipole Antennas and Charge-Pump Circuitry on a Flapping-Wing Aerial Vehicle**
H. Izumi, T. Ishide, H. Nagai

CRF-5: **Numerical Analysis of the Flow around a Wing-body Combination Model with Three-degree-of-freedom Flapping**
M. Mitsunaga, T. Ishide, H. Izumi, Y. Katsu, H. Nagai

CRF-6: **Study of Vortex Generators on Small Rotor Blades for Minimizing Noise Emissions**
H. Otsuka, H. Sasaki, H. Tokutake, T. Ikami, H. Nagai, H. Osaki, D. Sasaki, Y. Kawamoto

CRF-7: **Trial-experiment Study for Improvement of the Aerodynamic Performance on a Roadable Aircraft using Wind Tunnel Testing**
S. Morizawa, Y. Shinzato, M. Okawa, T. Ikami

CRF-8: **Ribbed Membrane Wing Characteristics in Low Reynolds Number Flow by Numerical and Experimental Approach**
H. Kono, S. Kudo, H. Kurahashi, T. Ikami, H. Nagai, M. Kanazaki

CRF-9: **Investigation of the Effects of Trailing Edge Shape and Thickness on Tonal Noise and Its Mechanism**
K. Harada, H. Sumikawa, T. Shibata, R. Mise, M. Okawa, T. Ikami, H. Nagai

CRF-10: **The Precise Measurement of Drag Coefficient of Decelerating Free-flight Sphere (2nd-Report)**
T. Kikuchi, K. Ohtani

CRF-11: **On the Friction Drag Reduction Mechanism by Distributed Micro Roughness in Transitional Boundary Layer Flow**
R. Osaki, K. Nakagawa, A. Yakeno, T. Kawata

CRF-12: **Dynamic Mode Decomposition Analysis of Three-Dimensional Smooth and Riblet Surface at Mach 0.2**
L. A. Tuan, K. Zakaria, P. S. Palar, V. D. Duong, L. R. Zuhal, A. Oyama, A. Yakeno

CRF-13: **Surrogate Modeling of Sonic Boom Loudness Under Atmospheric Variability**
H. Yamashita, B. Kern, T. Ukai, T. Misaka, A. Yakeno, S. Obayashi

CRF-14: **Effects of Engine Rotational Speed on Full Aircraft Cruise Aerodynamic Performance**
K. Chiba, J. Mueller, Y. Oba, Y. Abe

CRF-15: **Machine Learning Based Post-Processing for PIV data**
R. Kokubo, M. Kurosawa, M. Okawa, T. Ikami, H. Nagai, Y. Matsuda

CRF-16: **ShockWave Experiments Around a Hypersonic Vehicle for CFD Validation Data Acquisition**
M. Furudate, Y. J. Kim, J. Kim, B. J. Lee, K. Ohtani, H. Nagai

CRF-17: **Fundamental Study on Two-Color DP-AA-PSP for Pressure Field Measurements on Supersonic Projectiles**
D. Numata, Y. Kawamata, T. Kawashima, K. Yoneyama, H. Takata, K. Ohtani

CRF-18: **Attenuation Effect of Shock Environment in Supersonic Flows using the Soft Body**
K. Kitagawa, H. Ueda, K. Ohtani, N. Sato, T. Ogawa, Y. Konishi

CRF-19: **Fundamental Study of Weak Radiation behind Air Shock Waves (Second Report)**
M. Funatsu, T. Ogino, K. Shimoyama, K. Shibusawa, K. Ohtani

CRF-20: **Experimental Investigation on Shock Wave Development in Opaque Medium**
T. Mizukaki, Y. Iwamoto, S. Nakamura, K. Kiura, H. Tanno, K. Otani

CRF-21: **Charting Kakkoii Aircraft through the Intersection of the Humanities and Engineering: A Preliminary Survey Report**
R. Saito, Y. Abe, R. Takano, J. Shintake

CRF-22: **Experimental Study on Block Transport in Explosive Volcanic Eruptions using Schlieren and Shadowgraph Imaging**
K. Tsunematsu, K. Ohtani, N. Steinau, A. Kaneko, K. Seo, T. Tomizawa

CRF-23: **Microseismic Data Analysis for Understanding Hydrothermal System of the Kuju Volcano**
T. Uryu, Y. Mukuhira, T. Ikeda, D. Darisma, T. Kawahito, K. Okamoto, K. Kitamura

CRF-24: **Machine Learning-based Analysis for Microseismic Monitoring of Water Injection at Muara Laboh Geothermal Field, Indonesia**
D. Darisma, Y. Mukuhira, O. Lengline, R. S. Salsabila, K. Okamoto, H. Azis, I. A. Nugroho, N. Ganefianto

CRF-25: **Combined In situ & Ex situ, Multi-scale Stress Measurements in Crystalline Geothermal Reservoirs**
Y. Mukuhira, X. Ma, S. Zhang, T. Ito

CRF-26: **Investigation on Influence of Side Chain on Crosslinking Process and Thermomechanical Properties of Epoxy Resin**
Y. Zhao, G. Kikugawa

CRF-27: **Magnetic Incremental Permeability Detection Method and Experimental Technology for Stress under High-Temperature for Ferromagnetic Materials**
Z. Xu, S. Zhang, Y. Wang, B. Wu, X. Liu, T. Uchimoto

CRF-28: **PECT Signal Processing Algorithm for Better Thickness Quantification of Ferromagnetic Material**
S. Xie, S. Yang, G. Lu, Z. Chen, T. Uchimoto, T. Takagi

CRF-29: **Influence of Ni Dissolution on Ionic Transport and Structure in YSZ: A Molecular Dynamics Study**
Y. Guo, J. Shiomi, T. Taniuchi, H. Sun, T. Ohara, M. Kishimoto, H. Iwai

CRF-30: **Insights into Passivation Mechanisms at Ti/TiOx/Si Interfaces by Molecular Dynamics Simulation: Role of Metal and Oxide Layer Thickness**
S. Fukaya, N. Uene, K. Gotoh, T. Tokumasu, N. Usami

CRF-31: **Effect of Solvent Mixture on Interfacial Phenomena between Surface-Modified Metal Oxide and Binary Mixtures of Organic Solvents**
Y. Sato, T. Saito, E. Shoji, G. Kikugawa, D. Surblys, A. Komiya, M. Kubo

CRF-32: **Formation of SiC Coating on MWCNTs via Thermal CVD with Vinylsilane**
N. Ohshima, K. Uehara, Y. Nakai, S. Fukuchi, S. Yasuhara, T. Tokumasu, K. Goshima, N. Taoka, W. Takeuchi

CRF-33: **Proposal of Simple Method for Evaluation of Stability of Magnesium Oxide on Silicon Surface for Epitaxial Growth**
S. Kaneko, M. Kurouchi, M. Yasui, D. Shiojiri, M. Mitsuhashi, M. Yoshimura, R. Yu, S. Yasuhara, M. M. Can, S. K. Sahoo, I. Mariana, K. Sardar, T. Tokumasu

CRF-34: **Molecular Dynamics Simulation for Determining Static and Kinetic Parameters of CO_2 Adsorption in Direct Air Capture (DAC) Applications**
E. Munandar, N. Y. Rodjali, T. Tokumasu

CRF-35: **Effect of Soret Diffusion on Intrinsic Instability of Hydrogen/air Flames**
Q. Wen, Y. Wang, L. Yang, Y. Morii, T. Zirwes, S. Wang, Z. Chen

CRF-36: **Effect of NTC Regime on Ignition Front Dynamics under Engine-Like Conditions**
M. B. Luong, Y. Morii, H. G. Im

CRF-37: **Study on the Injection Control of Carbon-Free Fuels**
N. Kawaharada, I. Oshima

CRF-38: **Fundamental Simulation of Plasma Processes to Optimize Ammonia Production Efficiency**
S. Sakamoto, R. Shiraishi, T. Hatayama, T. Fujii, Y. Hayamizu, T. Tokumasu

CRF-39: **Direct-Ammonia SOFCs: Evaluation of Nitric Oxide Generation and Mitigation Strategies**
A. Willsey, C. Wilhelm, K. Tamaoki, H. Nakamura, J. Ahn

CRF-40: **Accurate Modeling of Real-Fluid Thermodynamic and Transport Properties via an Attention-Based Many-Body Deep Potential**
X. Zhang, R. Bo, H. Nakamura, H. Zhao

CRF-41: **Numerical Modeling of Solid-Liquid Interface Transport Fields in Desalination by Gas Hydrate Formation**
Y. Kanda, H. Komatsu

CRF-42: **Visualization of Concentration Boundary Layer Near Gas-liquid Interface in Gas Absorption**
Y. Kanda, J. Ke

CRF-43: **Control of Quasi-Atmospheric Turbulence via Multi-Shear Flow Systems**
K. Takamure, I. Oshima

CRF-44: **DNS of Spatially Developing Natural Convection Boundary Layer and Global Behaviour for $Pr = 2$ and $Pr = 6$**
J. Lu, J. Ke, S. W. Armfield, A. Komiya

CRF-45: **Schlieren Imagery of Low Frequency AC Voltage EHD of Phase Change Materials**
E. Chariandy, J. S. Cotton, T. Sato, S. Liu

CRF-46: **Enhancing Thermal and Electrical Performance of CPC-Based CPVT Systems Using Spectrally Selective Optical Filters**
A. Ustaoglu, B. Kursuncu, T. Altiok, H. Buyukpatpat, M. O. Karaagac, J. Okajima

CRF-47: **Research on Power Generation Technology using Flow-induced Vibration**
K. Kondo, K. Nakagawa, H. Hasegawa, H. Nagai

CRF-48: **Toward the Construction of a Prediction Method on Fluid Phenomena in Fuel Cells during a Long Start-up Time**
S. Morizawa, S. Nakama, T. Tokumasu

CRF-49: **Characterization of Particulate Morphology Generated from Lithium-Ion Battey Combustion Processes**
S. L. Manzello, S. Suzuki, K. Maruta

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K. Hirata, J. Ishimoto, M. Nakano, T. Adachi, K. Oguchi, K. Hijiri

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K. Nakayama, K. Sakurai, T. Nishino, Y. Hattori