

Wednesday, October 8, 2014

9:00	<p>Opening Address & Plenary Lectures @ TACHIBANA</p> <p>9:20-10:10 Recent Advances in High Reynolds Number Partially-premixed Combustion Research <i>James F. Driscoll</i> Chair: <i>Hideaki Kobayashi</i></p> <p>10:15-11:05 Means of Stabilization of Flying Inspection Vehicles to Enhance Data Flow in Image Processing <i>Christian Boller</i> Chair: <i>Toshiyuki Takagi</i></p> <p>11:10-12:00 Wettability Engineering for Heat Transfer Applications <i>Constantine Megaridis</i> Chair: <i>Shigenao Maruyama</i></p>	9:00
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12:00	LUNCH / Scientific Committee Meeting	12:00
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13:00	MEETING ROOM 1	MEETING ROOM 2	SAKURA 2	TACHIBANA	MEETING ROOM 4	MEETING ROOM 6	MEETING ROOM 8	13:00
	<p>OS8: Flow Dynamics and Combustion in Hybrid Rockets</p> <p>Flow Dynamic Issues Chair: <i>S. Aso</i></p>	<p>GS1: General Session</p> <p>GS1-A Greenhouse Gas, Material Science, NDT Chair: <i>H. Takana</i></p>	<p>OS10: The Tenth International Students / Young Birds Seminar on Multi-scale Flow Dynamics</p> <p>Chair: <i>R. Kikuchi</i></p>	<p>OS1: The Second International Symposium on Innovative Energy Research I Core Technology for Advanced Energy Devices</p> <p>1. Solar Cell Chair: <i>T. Kubota</i></p>	<p>OS5: Biomedical Flow Dynamics</p> <p>Chair: <i>M. Ohta</i></p>	<p>OS7: Cutting Edge of Thermal Science and Engineering</p> <p>Chair: <i>S. C. Mishra</i></p>	<p>CS1: The Second International Workshop on Fluid and Material Sciences in Cooperation between Tohoku University and KTH</p> <p>Chair: <i>T. Hayase</i></p>	
	<p>13:00-13:25 OS8-1 Status Summary of FY 2013 Hybrid Rocket Research Working Group <i>T. Shimada</i></p> <p>13:30-13:55 OS8-2 Regression Characteristics of CAMUI-type Fuel Grain at High Reynolds Numbers <i>H. Nagata, T. Ishiyama, Y. Inaba, Y. Saito, R. Kanai, M. Wakita, T. Totani</i></p> <p>14:00-14:30 OS8-3 <i>Invited</i> Safety Issues with Nitrous Oxide <i>A. Karabeyoglu</i></p>	<p>13:00-13:20 GS1-1 Thickening of CO₂ Using Copolymer- Application in CO₂ Management <i>B. V. S. Jyoti, S. W. Baek, N. Purushothaman, D. G. Lee</i></p> <p>13:20-13:40 GS1-2 Multi-Scale FEM Modeling Effective Thermal Conductivity of Composite Medium <i>E. P. Shurina, O. P. Solonenko, N. B. Itkina, A. A. Agafontsev</i></p> <p>13:40-14:00 GS1-3 Multi-Level Structure of High-Temperature Synthesized NiCr-TiC Cermet Versus Liquid Inert Binder Content <i>O. P. Solonenko, V. E. Ovcharenko, A. E. Chesnokov</i></p>	<p>13:30-(15:00) OS10-1 - OS10-29 Short Oral Presentation</p>	<p>13:00-13:30 OS1-1 <i>Invited</i> Multiscale Si-based Materials for Photovoltaic Applications <i>N. Usami, I. Takahashi, S. Joonwichien, S. Matsushima, Y. Hoshi, K. Hara</i></p> <p>13:30-14:00 OS1-2 <i>Invited</i> Nanotechnology for Future Green Nanodevices <i>S. Samukawa</i></p> <p>14:00-14:30 OS1-3 <i>Invited</i> Optical Investigation of the Effect of Mini-band Formation on the Carrier Collection Mechanism in a Strain-balanced InGaAs/GaAsP MQW Solar Cell Structure <i>T. Ikari, T. Aihara, M. Sugiyama, Y. Nakano, A. Fukuyama</i></p>	<p>13:00-13:40 OS5-1 <i>Invited</i> Hemodynamic Features of Cerebral Aneurysms that Influence to Rupture <i>Y. Qian</i></p> <p>13:40-14:00 OS5-2 Investigation of Aneurysm Development and Rupture using Fluid-Structure Interaction (FSI) Methods <i>C.-J. Lee, H. Takao, Y. Murayama, Y. Qian</i></p> <p>14:00-14:15 OS5-3 Fundamental Study of Interaction between Erythrocyte and Endothelial Cell under Inclined Centrifugal Force (Reproduction of Friction Characteristics by Numerical Analysis Using Simple Interaction Model) <i>A. Yatsuyanagi, T. Hayase, K. Funamoto, K. Inoue, A. Shirai</i></p>	<p>13:00-13:25 OS7-1 Improvement of Defrosting Method for Cryogenic Heat Exchanger Using Impingement of Alumina Particles <i>N. Sonobe, K. Fukiba, S. Sato</i></p> <p>13:25-13:50 OS7-2 Studies on Redistribution of Inlet Temperature Distribution in a Turbine using High-Order LES Approach <i>D. Biswas</i></p> <p>13:50-14:15 OS7-3 Density Measurement of Supersonic Air Flow Inside a Bumped Micro-channel using Interferometer <i>Y. Takahashi, J. Okajima, Y. Iga, A. Komiya, S. Maruyama</i></p>	<p>13:00-14:00 CS1-1 <i>Keynote</i> Turbulent Channel Flow of Suspensions of Neutrally-Buoyant Particles <i>F. Picano, L. Brandt</i></p> <p>14:00-14:30 CS1-2 <i>Invited</i> Cavity Noise Suppression by Placing a Small Bar on the Cavity Wall <i>Y. Fukumishi, Y. Nishi, Y. Nishio, S. Izawa</i></p>	

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14:30	14:00-14:20 GS1-4 Application of Lock-in Thermography to Detect Debonding in Welding Joints of Metallic Lattice Sandwich Plate <i>H. Liu, Z. Chen</i>			14:15-14:30 OS5-4 Evaluation of Lymph Node Metastasis by Interstitial Fluid Pressure <i>K. Takeda, T. Ouchi, T. Kodama</i>		14:30	
BREAK							
14:40	MEETING ROOM 1 OS8: Flow Dynamics and Combustion in Hybrid Rockets Numerical Simulations <i>Chair: K. Sawada</i>	MEETING ROOM 2 GS1: General Session GS1-B Biofluid Mechanics, Vortices <i>Chair: X. Su</i>	SAKURA 2 OS10: The Tenth International Students / Young Birds Seminar on Multi-scale Flow Dynamics <i>Chair: R. Kikuchi</i>	TACHIBANA OS1: The Second International Symposium on Innovative Energy Research I Core Technology for Advanced Energy Devices 2. Fuel Cell <i>Chair: T. Okada</i>	MEETING ROOM 4 OSS: Biomedical Flow Dynamics <i>Chair: Y. Qian</i>	MEETING ROOM 6 OS7: Cutting Edge of Thermal Science and Engineering <i>Chair: A. Komiya</i>	MEETING ROOM 8 CS1: The Second International Workshop on Fluid and Material Sciences in Cooperation between Tohoku University and KTH <i>Chair: Y. Fukunishi</i>
14:40-15:05 OS8-4 Numerical Simulation on Unsteady Compressible Low-Speed Shear Flow in Hybrid Rocket Combustion Chamber Using Preconditioned Method: Effects of Preconditioned Method Including Multi-Species Mass Conservation Equations <i>N. Tsuboi</i>	14:40-15:00 GS1-5 An Aspect in Flight Morphology of the Butterfly <i>S. Sudo, R. Tanaka, K. Inoue, A. Shirai, T. Hayase</i>	13:30-(15:00) OS10-1 - OS10-29 Short Oral Presentation (15:00-16:40) OS10-1 - OS10-29 Poster Presentation	14:40-15:10 OS1-4 <i>Invited</i> Nanoscale Flow Phenomena of Materials in Polymer Electrolyte Fuel Cell <i>T. Tokumasu</i> 15:10-15:40 OS1-5 <i>Invited</i> Effective Reaction Area in Solid Oxygen Fuel Cell Cathodes <i>K. Amezawa, Y. Fujimaki, T. Nakamura, K. Nitta, Y. Terada, F. Iguchi, H. Yugami, K. Yashiro, T. Kawada</i>	14:40-15:10 OS5-5 <i>Invited</i> EPTFE Valve Dynamics in the Pulmonary Mock Circulatory System <i>Y. Shiraishi, Y. Tsuboko, I. Suzuki, S. Matsuo, Y. Saiki, T. Yambe, M. Yamagishi, Y. Qian</i> 15:10-15:30 OS5-6 Nanoparticle Mediated Laser Irradiation of Pig Lung as a Function of Respiration <i>R. Singh, S. C. Mishra</i>	14:40-15:05 OS7-4 Thermal Investigation of Human Breast and Utilization of Curve Fitting Technique in Inverse Estimation of Tumor Characteristics <i>K. Das, S. C. Mishra</i> 15:05-15:30 OS7-5 Preliminary Study of Self-heated Thermistor Probe for Non-invasive Medical Diagnosis <i>T. Okabe, J. Okajima, A. Komiya, S. Maruyama</i>	14:40-15:10 CS1-3 <i>Invited</i> Adaptive Control of Finite-Amplitude 3D Disturbances in 2D Boundary Layer Flows <i>N. Fabbiane, S. Bagheri, D. Henningson</i> 15:10-15:40 CS1-4 <i>Invited</i> Spin Torque and Spin Hall Effect Nano-Oscillators <i>R. K. Dumas, S. R. Sani, M. Mohseni, E. Iacocca, S. Chung, P. Dürrenfeld, M. Haidar, A. Awad, M. Ranjbar, J. Åkerman</i>	
15:10-15:35 OS8-5 Numerical Investigation of Regression Rate Enhanced by Various Surface Patterns on Solid Fuel <i>R. Takahashi, Y. Ogino, K. Sawada</i>	15:00-15:20 GS1-6 Microscopic Observation of Surface Cell Shape in a Catsear Petal <i>M. Sato, S. Sudo</i>		15:40-16:10 OS1-6 <i>Invited</i> Multi-Objective Design Exploration Toward Intelligent Energy Management <i>K. Shimoyama</i>	15:30-15:50 OS5-7 Patient Specific Simulation on Focused Ultrasound Ablation of Liver Tumor <i>M. A. Solovchuk, T. W. H. Sheu, M. Thiriet</i> 15:50-16:10 OS5-8 The Effect of Contact Force on Electrode Temperature and Internal Tissue Temperature during Ablation with a Vibrating Catheter <i>K. Yu, T. Yamashita, S. Shingyochi, M. Ohta</i>	15:30-15:55 OS7-6 Evaluation on Endothermic Effect of Dissociation in Methane Hydrate Reservoir <i>H. Gonome, R. Arnold, J. Okajima, A. Komiya, S. Maruyama</i>	15:40-16:10 CS1-5 <i>Invited</i> Three-Terminal Spintronics Devices for Nonvolatile Memory and Logic <i>S. Fukami, S. DuttaGupta, C. Zhang, H. Ohno</i>	
15:40-16:10 OS8-6 Investigation of Dual-Vortical-Flow Hybrid Rocket Engine Propulsion <i>Y.-S. Chen, S. S. Wei, A. Lai, J.-W. Lin, T.-H. Chou, J.-S. Wu</i>	15:20-15:40 GS1-7 Dependence of Axial Flow inside Wing Tip Vortices on Wing Planforms <i>H. Koizumi, Y. Hattori</i>						
15:40-16:00 GS1-8 Nonlinear Evolution of Disturbed Compressible Vortex Pair <i>T. Ushiki, M. Hirota, Y. Hattori</i>							
16:10	BREAK					16:10	

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MEETING ROOM 1	MEETING ROOM 2	SAKURA 2	TACHIBANA	MEETING ROOM 4	MEETING ROOM 6	MEETING ROOM 8
<p>OS8: Flow Dynamics and Combustion in Hybrid Rockets</p> <p>Performance Optimization <i>Chair: K. Chiba</i></p>	<p>GS1: General Session</p> <p>GS1-C Separation, Sound <i>Chair: Y. Hattori</i></p>	<p>OS10: The Tenth International Students / Young Birds Seminar on Multi-scale Flow Dynamics <i>Chair: R. Kikuchi</i></p>	<p>OS1: The Second International Symposium on Innovative Energy Research I Core Technology for Advanced Energy Devices 3. Lithium Ion Battery <i>Chair: T. Ohno</i></p>	<p>OS5: Biomedical Flow Dynamics <i>Chairs: T. Nakayama H. Anzai</i></p>	<p>OS7: Cutting Edge of Thermal Science and Engineering <i>Chair: S. Maruyama</i></p>	
<p>16:20-16:45 OS8-7 Flight Performance Estimation for Swirling-Oxidizer-Flow-Type Hybrid Rocket with Swirling Control <i>T. Usuki, K. Ozawa, T. Shimada</i></p> <p>16:50-17:15 OS8-8 A Theoretical Study on Individual and Optimized Control of Thrust and Mixture Ratio of Swirling-Oxidizer-Flow-Type Hybrid Rocket <i>K. Ozawa, T. Shimada</i></p> <p>17:20-17:50 OS8-9 Design Optimization of Launch Vehicle Concept Using Cluster Hybrid Rocket Engine for Future Space Transportation <i>S. Ito, F. Kanamori, M. Nakamiya, K. Kitagawa, M. Kanazaki, T. Shimada</i></p>	<p>16:20-16:40 GS1-9 Improved Compressor Corner Separation Prediction with the Quadratic Constitute Relation <i>X. Su, X. Yuan</i></p> <p>16:40-17:00 GS1-10 Experimental Study on Sound from Two Side-by-side Rectangular Cylinders with Slightly Different Aspect Ratios <i>R. Octaviany, M. Asai</i></p> <p>17:00-17:20 GS1-11 Experimental Investigation of the Influence of Roughness Receptivity on Protuberance Noise <i>M. Kobayashi, M. Asai</i></p> <p>17:20-17:40 GS1-12 Numerical Analysis of Sound Propagation for Acoustic Phased Array <i>K. Fujisawa, A. Asada</i></p>	<p>(15:00-16:40) OS10-1 - OS10-29 Poster Presentation</p>	<p>16:20-16:50 OS1-7 <i>Invited</i> Solid State Lithium Ion Battery Devices for Mobile Applications <i>I. Homma</i></p> <p>16:50-17:20 OS1-8 <i>Invited</i> Complex Hydrides for All-Solid-State Rechargeable Battery Electrolytes <i>A. Unemoto, M. Matsuo, T. Ikeshoji, S. Orimo</i></p> <p>17:20-17:30 OS1-9 InGaN Quantum Nanodisks for High Efficiency Optoelectronic Devices by Combination of Bi-temple and Neutral Beam Etching Processes <i>C. Y. Lee, A. Higo, J. Ohta, I. Yamashita, H. Fujioka, S. Samukawa</i></p> <p>17:30-17:40 OS1-10 Neutral Beam Etching of III-V Compounds for Laser Devices <i>C. Thomas, C. Y. Lee, Y. Tamura, K. Yoshikawa, A. Higo, I. Yamashita, S. Samukawa</i></p> <p>17:40-17:50 OS1-11 Development Wind Turbine with Dynamic Varying Shape Surface Blades <i>K. Kappas, S. Saule, K. Zhanar, K. Assiya, A. Assem</i></p>	<p>16:20-16:50 OS5-9 <i>Invited</i> Wall Shear Stress Fluctuations in Disturbed Blood Flow: Calculation and Classification <i>Y. Shimogonya, K. Valen-Sendstad, D. A. Steinman</i></p> <p>16:50-17:10 OS5-10 Enhancing Cell Free Layer Thickness by Bypass Channels in a Wall <i>M. Saadatmand, T. Yamaguchi, T. Ishikawa</i></p> <p>17:10-17:30 OS5-11 Numerical Analysis of the Effect of Hematocrit on the Hemodynamic Characteristics at AAA <i>J. T. Kim, K. H. Sung, H. S. Ryou</i></p> <p>17:30-17:50 OS5-12 A Development of Manufacture-oriented Optimization Strategy for Flow Diverter Stent based on Cylindrical Spirals <i>M. Zhang, H. Anzai, B. Chopard, M. Ohta</i></p>	<p>16:20-16:45 OS7-7 Local Consumption Speed of Turbulent Premixed V-shaped Flames of Methane-Air <i>S. Kheirkhah, Ö. L. Gülder</i></p> <p>16:45-17:10 OS7-8 Analysis of Liquid Petroleum Gas Combustion in a Porous Radiant Burner <i>S. Panigrahy, S. C. Mishra</i></p> <p>17:10-17:35 OS7-9 Combined Mode Conduction and Radiation Heat Transfer in a 2-D Porous Medium and Simultaneous Estimation of its Optical Properties <i>V. K. Mishra, S. C. Mishra, D. N. Basu</i></p>	
<p>Students / Young Birds Friendship Night @ SAKURA 2</p>						

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Thursday, October 9, 2014

MEETING ROOM 1	MEETING ROOM 2	SAKURA2	TACHIBANA	HAGI	SHIRAKASHI	MEETING ROOM 8
<p>9:00</p> <p>OS8: Flow Dynamics and Combustion in Hybrid Rockets</p> <p>Fuel Regression Rate Chair: H. Nagata</p>	<p>OS9: Advanced Control of Smart Fluids and Fluid Flows Chair: M. Nakano</p>	<p>OS10: The Tenth International Students / Young Birds Seminar on Multi-scale Flow Dynamics Chair: Y. Takahashi</p>	<p>OS2: The Second International Symposium on Innovative Energy Research II State-of-the-art Combustion Research Chair: K. Maruta</p>	<p>CS4: IFS Collaborative Research Forum (AFI-2014) Chair: K. Shimoyama</p>	<p>CS3: Global / Local Innovations for Next Generation Automobiles (Joint Session)</p>	<p>CS1: The Second International Workshop on Fluid and Material Sciences in Cooperation between Tohoku University and KTH Chair: F. Lundell</p>
<p>9:00-9:25 OS8-10 Experimental Study on Regression Rate of Solid Combustibles by Double Impinging Jets <u>K. Kamei</u>, <u>T. Matsuoka</u>, <u>S. Noda</u>, <u>H. Nagata</u></p> <p>9:30-9:55 OS8-11 Investigation of Fuel Regression Rate Characteristics of the 5 kN-thrust Swirling-Oxidizer-Flow-Type Hybrid Rocket Engine <u>T. Sakurai</u>, <u>H. Ando</u>, <u>S. Yuasa</u>, <u>S. Takahashi</u>, <u>T. Tomizawa</u>, <u>D. Hayashi</u>, <u>K. Kitagawa</u>, <u>A. Takayama</u>, <u>R. Yui</u>, <u>T. Shimada</u></p> <p>10:00-10:30 OS8-12 Development of High Performance Hybrid Rocket Engine with Multi-Section Swirl Injection Method through Combustion Visualization and Various Injection Modification <u>S. Aso</u>, <u>Y. Tami</u>, <u>K. Ohe</u>, <u>H. Tada</u>, <u>M. Mizuchi</u>, <u>M. Yamashita</u>, <u>T. Shimada</u></p>	<p>9:20-9:50 OS9-1 <i>Invited</i> Development of a Novel Multi-Layer MRE Isolator <u>J. Yang</u>, <u>S. Sun</u>, <u>W. Li</u>, <u>M. Nakano</u></p> <p>9:50-10:10 OS9-2 Creep and Recovery Behaviours of MR Shear Thickening Fluids <u>T. Tian</u>, <u>G. Peng</u>, <u>W. Li</u>, <u>M. Nakano</u></p> <p>10:10-10:30 OS9-3 Water Flow Produced by the Oscillation of Magnetic Fluid Adsorbed on a Permanent Magnet in Alternating Magnetic Field <u>M. Ito</u>, <u>S. Sudo</u>, <u>H. Nishiyama</u></p>	<p>9:30-(10:40) OS10-30 - OS10-51 Short Oral Presentation</p>	<p>9:00-9:45 OS2-1 <i>Invited</i> Flame Speeds and Possible Self-Similar Propagation of Expanding Premixed Turbulent Flames at High Flow Reynolds Numbers up to 80,000 <u>S. Shy</u></p> <p>9:45-10:15 OS2-2 <i>Topical</i> Plasma Activated Low Temperature Combustion <u>Y. Ju</u>, <u>S. H. Won</u>, <u>J. Lefkowitz</u>, <u>W. Sun</u></p>	<p>9:00-10:30 CRF-1 - CRF-29 Short Oral Presentation</p>	<p>9:00-9:30 CS3-1 Changing International Face of Transportation and Energy <u>M. C. Williams</u></p> <p>9:30-10:00 CS3-2 Chinese Automobile Industry <u>N. H. Behling</u></p> <p>10:00-10:30 CS3-3 Advanced NDT To Monitor Friction Stir Welding <u>G. Dobmann</u></p> <p>*** Any participants in ICFD2014 can attend the International Conference "Global / Local Innovations for Next Generation Automobiles" subsequently held at SHIRAKASHI.</p>	<p>9:00-10:00 CS1-6 <i>Keynote</i> Material Design and Crystal Growth of High Performance Scintillators and Their Applications <u>A. Yoshikawa</u>, <u>K. Kamada</u>, <u>S. Kurosawa</u>, <u>Y. Yokota</u>, <u>Y. Ohashi</u>, <u>M. Nikl</u></p> <p>10:00-10:30 CS1-7 <i>Invited</i> Importance of Surface Structure for Dynamic Wetting <u>J. Wang</u>, <u>Y. Nakamura</u>, <u>A. Carlson</u>, <u>F. Yue</u>, <u>Y. Suzuki</u>, <u>G. Amberg</u>, <u>J. Shiomi</u>, <u>M. Do-Quang</u></p>
<p>10:30</p> <p>BREAK</p> <p>10:30</p>						
MEETING ROOM 1	MEETING ROOM 2	SAKURA2	TACHIBANA	HAGI	MEETING ROOM 4	MEETING ROOM 8
<p>10:40</p> <p>OS8: Flow Dynamics and Combustion in Hybrid Rockets</p> <p>Development of Hybrid Rockets Chair: T. Shimada</p>	<p>OS9: Advanced Control of Smart Fluids and Fluid Flows Chair: W. Li</p>	<p>OS10: The Tenth International Students / Young Birds Seminar on Multi-scale Flow Dynamics Chair: Y. Takahashi</p>	<p>OS2: The Second International Symposium on Innovative Energy Research II State-of-the-art Combustion Research Chair: H. Nakamura</p>	<p>CS4: IFS Collaborative Research Forum (AFI-2014) Chair: Y. Iga</p>	<p>GS1: General Session GS1-D Heat Transfer Chair: A. Komiya</p>	<p>CS1: The Second International Workshop on Fluid and Material Sciences in Cooperation between Tohoku University and KTH Chair: G. Amberg</p>
<p>10:40-11:05 OS8-13 Numerical and Experimental Investigation of Propulsion Performance of Single-Port Hybrid Motors with Thrusts of > 1,000 kgf <u>T.-H. Chou</u>, <u>G.-R. Lai</u>, <u>S.-S. Wei</u>, <u>J.-W. Lin</u>, <u>J.-S. Wu</u>, <u>Y.-S. Chen</u></p>	<p>10:40-11:10 OS9-4 <i>Invited</i> Application of Electro-rheology to Improve Energy Production <u>R. Tao</u></p>	<p>(10:40-12:00) OS10-30 - OS10-51 Poster Presentation</p>	<p>10:40-11:10 OS2-3 Combustion-Synthesized Porous Materials. Methods of Modifying the Porous Structure. <u>A. S. Maznoy</u>, <u>A. I. Kiryashkin</u>, <u>A. N. Guschin</u>, <u>S. S. Minaev</u></p>	<p>10:40-12:10 CRF-30 - CRF-58 Short Oral Presentation</p>	<p>10:40-11:00 GS1-13 Numerical Modeling of Heat Transfer in the Cooling System Using Phase Change Material and Heat Pipes for Power Battery of Electric Vehicles <u>T. Ojiro</u>, <u>K. Nonaka</u>, <u>K. Kudo</u>, <u>T. Yamada</u>, <u>T. Yamada</u>, <u>N. Ono</u></p>	<p>10:40-11:10 CS1-8 <i>Invited</i> Modeling of Cortical Bone and Bone Marrow <u>M. Ohta</u>, <u>W. Sakuma</u>, <u>Y. Muramoto</u>, <u>H. Anzai</u>, <u>T. Nakayama</u></p>

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<p>11:10-11:35 OS8-14 Technological Issues of Hybrid Propulsion System Required for Practical Use <i>K. Kitagawa, T. Shimada</i></p> <p>11:40-12:10 wrap-up</p>	<p>11:10-11:30 OS9-5 Electro-Rheological Behavior and Microstructure of Nano-Suspensions based on Titanium Dioxide Nano-Particles <i>K. Tanaka, H. Kobayashi, M. Nakano</i></p> <p>11:30-11:50 OS9-6 Control Problems for the MHD Equations under Inhomogeneous Mixed Boundary Conditions <i>R. Brizitskii</i></p> <p>11:50-12:10 OS9-7 Fluid Control Analysis of Piston Typed Valve Core in the Pilot-Control Globe Valve <i>J.-Y. Qian, Z.-J. Jin, X.-F. Gao, B.-Z. Liu</i></p>		<p>11:10-11:40 OS2-4 Filtrational Combustion of Gaseous Hydrocarbons Inside Porous Ni-Al Materials. <i>A. I. Kirdyashkin, A. N. Guschin, A. S. Maznoy, S. S. Minaev</i></p> <p>11:40-12:10 OS2-5 Simplified Numerical Model of the Combustion in a Porous Media <i>E. Sirotkin, R. Fursenko, S. Minaev</i></p>		<p>11:00-11:20 GS1-14 Experimental Analysis of Heat Transfer in the Cooling System Using Phase Change Material and Heat Pipes for Power Battery of Electric Vehicles <i>K. Nonaka, T. Ojiro, K. Kudo, T. Yamada, T. Yamada, N. Ono</i></p> <p>11:20-11:40 GS1-15 Improvement of Startup Characteristics of a Loop Heat Pipe using Secondary Wicks <i>M. Taketani, H. Nagai</i></p> <p>11:40-12:00 GS1-16 Numerical Investigation of the Effects of Initial Liquid-Vapor Distribution in Oscillating Heat Pipes <i>T. Daimaru, S. Yoshida, H. Nagai, A. Okamoto, M. Ando, H. Sugita</i></p>	<p>11:10-11:40 CS1-9 <i>Invited</i> Flow Manipulation of Nano-Fibrillated Cellulose: a Key Technology for New Bio-Based Materials <i>K. Håkansson, F. Lundell, L. Prahl-Wittberg, D. Söderberg</i></p> <p>11:40-12:10 CS1-10 <i>Invited</i> Fundamental Characteristics on Electromagnetic Energy Conversion Device for Efficient Wind Energy Utilization <i>H. Takana, A. Tanida</i></p>
LUNCH				12:10-13:10 CRF-1 - CRF-58 Lunch and Poster Session	LUNCH	
MEETING ROOM 1	MEETING ROOM 2	SAKURA2	TACHIBANA	HAGI	MEETING ROOM 4	MEETING ROOM 8
<p>CS2: Heat and Fluid Flow <i>Chair: Y.-H. Liu</i></p>	<p>OS9: Advanced Control of Smart Fluids and Fluid Flows <i>Chair: R. Tao</i></p>	<p>OS10: The Tenth International Students / Young Birds Seminar on Multi-scale Flow Dynamics <i>Chair: H. Sato</i></p>	<p>OS2: The Second International Symposium on Innovative Energy Research II State-of-the-art Combustion Research <i>Chair: S. Minaev</i></p>	<p>CS4: IFS Collaborative Research Forum (AFI-2014) <i>Chair: A. Shirai</i></p>	<p>GS1: General Session GS1-E Space <i>Chair: H. Nakamura</i></p>	<p>Liaison Office Session <i>Chair: M. Ohta</i></p>
<p>13:10-13:25 CS2-1 Effect of Rub Mushrooming Damage on the Leakage Flow Characteristics of Labyrinth Seal <i>X. Yan, K. He, J. Li</i></p> <p>13:25-13:40 CS2-2 Vortical Structures in Film Cooling Induced by Shaped Holes and Slots <i>W.-S. Chao, S.-H. Chen, W.-S. Fu</i></p> <p>13:40-13:55 CS2-3 Heat Transfer and Friction Performance of Plate Heat Exchangers Having Hexagonal Dimples <i>C.-L. Wang, K.-H. Lee, C.-C. Wang</i></p>	<p>13:10-13:40 OS9-8 <i>Invited</i> Novel Electroactive Polymer for Micro-Motor Development <i>M. Zrinyi, M. Nakano</i></p> <p>13:40-14:00 OS9-9 Micro-Motor Consisting of Electro-Active Polymer Composite Rotor in Dielectric Liquid <i>M. Nakano, T. Okumura, M. Zrinyi</i></p> <p>14:00-14:20 OS9-10 Active Flow Control by Multi-electrode Microplasma Actuator <i>Y. Mizuno, M. Blajan, H. Yoneda, K. Shimizu</i></p>	<p>13:10-(14:20) OS10-52 - OS10-73 Short Oral Presentation</p> <p>(14:20-15:40) OS10-52 - OS10-73 Poster Presentation</p>	<p>13:10-13:30 OS2-6 Near-Blowoff Dynamics of Bluff-Body-Stabilized Premixed Flames in a Narrow Channel <i>B. J. Lee, C. S. Yoo, H. G. Im</i></p> <p>13:30-13:50 OS2-7 Flame Propagation Through Smoothly Converging Microchannel <i>T. Miroshnichenko</i></p> <p>13:50-14:10 OS2-8 Efficiency of Thermoelectric Generator Combined with Small sized Countercurrent Microcombustor <i>I. Terletskiy, S. Minaev, S. Kumar, K. Maruta</i></p>	<p>13:10-14:40 CRF-59 - CRF-87 Short Oral Presentation</p>	<p>13:10-13:30 GS1-17 Combustion Characteristics of Ethylene in a Dual-Mode Combustor <i>K. Nojima, S. Tomioka, N. Sakuranaka</i></p> <p>13:30-13:50 GS1-18 Mixture Evaluation in a RBCC Engine at Scramjet Mode <i>R. Nakano, S. Tomioka, K. Kudo, A. Murakami, S. Ueda</i></p>	<p>13:10-14:40 Student Globalization through multilateral networks <i>K. Suematsu, A. Vasiliev, F. Lundell, S. J. Kim, J. Ahn, M. P. Favre, T. Takagi</i></p> <p>Discussion Guest Commentator <i>H. Miura</i></p>

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<p>13:55-14:10 CS2-4 Heat Transfer in Developing Region of a Boundary Layer Affected by a Wake of a Square Bar <i>Y. Ito, X. Shuang, K. Nagata, Y. Sakai, T. Hayase</i></p> <p>14:10-14:25 CS2-5 Air-Water Two-Phase Flow Distribution in Multi-Plates Heat Exchanger <i>Y.-S. Tseng, C.-Y. Yang, F.-C. Lin</i></p> <p>14:25-14:40 CS2-6 Experimental Studies on Self-assembled Ferrofluid Drops in a Rotating Field <i>C.-Y. Chen, S.-Y. Wang, H.-C. Hsueh</i></p>	<p>14:20-14:40 OS9-11 A Spiral-tube-type Valveless Piezoelectric Pump With Gyroscopic Effect <i>J. Zhang</i></p>		<p>14:10-14:30 OS2-9 An Experimental Study on the Structural Characteristics of the Flame Formulated in a Mesoscale Fuel Mixing Layer <i>M. J. Lee, N. I. Kim</i></p>		<p>13:50-14:10 GS1-19 Development of the Fuel Heating Device for Component Test of Aerospace Propulsion Systems <i>M. Soejima, K. Nojima, S. Tomioka, N. Sakuranaka</i></p> <p>14:10-14:30 GS1-20 Examination of Options for Space Disposal of Nuclear Waste <i>C. Park, W. S. Jeong, J. Jerin, D. Lee, H. J. Kim, H. T. Kim, N. Purushothaman</i></p>	
<p>BREAK</p>						
<p>MEETING ROOM 1</p> <p>CS2: Heat and Fluid Flow <i>Chair: Y.-Y. Niu</i></p>	<p>MEETING ROOM 2</p> <p>OS9: Advanced Control of Smart Fluids and Fluid Flows <i>Chair: A. Rinoshika</i></p>	<p>SAKURA2</p> <p>OS10: The Tenth International Students / Young Birds Seminar on Multi-scale Flow Dynamics <i>Chair: H. Sato</i></p>	<p>TACHIBANA</p> <p>OS2: The Second International Symposium on Innovative Energy Research II State-of-the-art Combustion Research <i>Chair: S. Shy</i></p>	<p>HAGI</p> <p>CS4: IFS Collaborative Research Forum (AFI-2014) <i>Chair: M. Sun</i></p>	<p>MEETING ROOM 4</p> <p>GS1: General Session GS1-F Space, Micro Air Vehicle <i>Chair: D. Numata</i></p>	<p>MEETING ROOM 8</p> <p>OS4: International Symposium on Smart Layered Materials and Structures for Energy Saving (Joint Symposium) <i>Chairs: F. Kojima, Z. Chen</i></p>
<p>14:50-15:05 CS2-7 Calculation of Normal Modes and Natural Frequencies of a Wave Tank with Hinged Side Walls <i>P.-H. Chen, T.-S. Yang</i></p> <p>15:05-15:20 CS2-8 An Investigation of the Applications of the Immersed Boundary and Grid Deformation Method in Compressible Flow Field <i>K.-R. Huang, W.-S. Fu, C.-G. Li</i></p> <p>15:20-15:35 CS2-9 Numerical Simulation on Displacement of Immiscible Layers <i>H. M. Ardi, Y.-S. Huang, C.-Y. Chen</i></p>	<p>14:50-15:10 OS9-12 Examination of Discretization Schemes for the Numerical Simulation of Ion Transport around a Plasma Actuator <i>K. Matsumoto, K. Fukagata</i></p> <p>15:10-15:30 OS9-13 Optimal Control Approach for Solving Inverse Heat Convection Problems <i>G. Alekseev, D. Tereshko</i></p> <p>15:30-15:50 OS9-14 Low-Reynolds-Number Aerodynamic Characteristics of Various Airfoils <i>S. Kondo, R. Nozawa, J. Funaki, K. Hirata</i></p>	<p>(14:20-15:40) OS10-52 - OS10-73 Poster Presentation</p>	<p>14:50-15:10 OS2-10 Low-Lewis-Number Counterflow Flame Experiments Under Microgravity for a Comprehensive Combustion Limit Theory <i>T. Kobayashi, H. Nakamura, T. Tezuka, S. Hasegawa, K. Takase, M. Katsuta, M. Kikuchi, K. Maruta</i></p> <p>15:10-15:30 OS2-11 Development of Green Space Propulsion using Nitrous Oxide Based Propellants <i>Y.-S. Chen, J.-W. Lin, T.-H. Chou, S. S. Wei, J.-S. Wu, L. Yang, B. Wu</i></p>	<p>14:50-15:20 CRF-88 - CRF-R2 Short Oral Presentation</p> <p>15:20-16:20 CRF-59 - CRF-R2 Poster Session</p>	<p>14:50-15:10 GS1-21 Numerical Simulation of High-Altitude Aerothermodynamics of Prospective Spacecraft by the DSMC Method <i>P. Vashchenkov, A. Kashkovsky, A. Shevyrin, S. Yonemura</i></p> <p>15:10-15:30 GS1-22 Study of Motion Modeling for a Capsule Shaped Projectile in Free Flight Testing at Transonic <i>A. Ishida, H. Nagai, H. Tanno, T. Komuro</i></p>	<p>14:50-15:05 OS4-1 Evaluation of Residual Strain in the Structural Materials of Nuclear Power Plants <i>T. Uchimoto, T. Takagi, Z. Chen, K. Yoshihara, G. Dobmann</i></p> <p>15:05-15:30 OS4-2 Assesmet of Mechanical Reliability for Development of Electrochemical Devices <i>K. Sato, N. Azeggagh, T. Hashida</i></p> <p>15:30-15:55 OS4-3 Impact Force Identification and Damage Monitoring of Laminated Structures <i>S. Atohe, H. Fukunaga</i></p>

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<p>15:35-15:50 CS2-10 An Investigation of Transitional Phenomena from Laminar to Turbulent Natural Convection using Compressible Direct Numerical Simulation <i>C.-G. Li, M. Tsubokura, K. Onishi, W.-S. Fu</i></p> <p>15:50-16:05 CS2-11 Numerical Analysis in a Directional Solidification System <i>T.-K. Lin, C.-Y. Chen</i></p> <p>16:05-16:20 CS2-12 An Investigation of Swing Phenomena of Natural Convection in Parallel Square Plates by a Hybrid Boundary Condition <i>W.-H. Wang, H.-L. Lin, W.-S. Fu</i></p>	<p>15:50-16:10 OS9-15 Drag Reduction of a High Reynolds Number Spatially Developing Boundary Layer Using a Uniform Blowing or Suction <i>D. Noguchi, K. Fukagata, N. Tokugawa</i></p>		<p>15:30-15:50 OS2-12 Realization of a Low-NOx Combustion System by Combinations of Burner and Furnaces <i>K. D. K. A. Somarathne, S. Noda</i></p> <p>15:50-16:10 OS2-13 Special Features of Gas Combustion in Cyclone Vortex Burner <i>K. Shym, T. Soloveva</i></p>		<p>15:30-15:50 GS1-23 Optical Diagnostics of CO₂-N₂-Ar Plasma in the Hollow Electrode Arc Heater <i>G. Yamada, G. Nishida, M. Nakanishi, H. Kawazoe</i></p> <p>15:50-16:10 GS1-24 Experimental Study of Effects of Mini Flaps at Low Reynolds Number <i>D. Oshiyama, D. Numata, K. Asai</i></p>	<p>15:55-16:20 OS4-4 Damage Evaluation of Cu-Alloy Combustion Chamber of Liquid Rocket Using ECT <i>M. Shiwa, D. He, M. Hayakawa, S. Moriya, T. Kobayashi</i></p>
BREAK						
MEETING ROOM 1	MEETING ROOM 2	SAKURA2	TACHIBANA	HAGI	MEETING ROOM 4	MEETING ROOM 8
<p>CS2: Heat and Fluid Flow <i>Chair: S. Cheng</i></p>	<p>OS9: Advanced Control of Smart Fluids and Fluid Flows <i>Chair: Y. Fukunishi</i></p>		<p>OS2: The Second International Symposium on Innovative Energy Research II State-of-the-art Combustion Research <i>Chair: Y. Ju</i></p>	<p>CS5: Fluids Science Research Award Lectures <i>Chair: T. Hayase</i></p>	<p>GS1: General Session GS1-G Micro Air Vehicle, Dynamic Wind Tunnel, Aerodynamics <i>Chair: P. Vashchenkov</i></p>	<p>OS4: International Symposium on Smart Layered Materials and Structures for Energy Saving (Joint Symposium) <i>Chairs: G. Dobmann, M. Shiwa</i></p>
<p>16:30-16:45 CS2-13 Manipulation of an Oscillating Superparamagnetic Micro-bead Chain: Effect of Frequency <i>H.-C. Lin, C.-Y. Chen</i></p> <p>16:45-17:00 CS2-14 Thermal Behavior and Electrical Characterization of Paralleled GaN HEMTs Power Module <i>S. Cheng, P.-C. Chou, H.-P. Chou</i></p> <p>17:00-17:15 CS2-15 Influence of Boundary Implementation with Lattice Boltzmann Method on the Prediction of Lid-driven Cavity Flow on Graphics Processor Unit <i>Y.-H. Lee, C.-A. Lin</i></p>	<p>16:30-16:50 OS9-16 Flow Measurement and Flow Visualisation around a Flat Plate on the Moving Belt System for Wind Tunnel <i>T. Inoue, S. Maeno, H. Mihara, K. Hirata</i></p> <p>16:50-17:10 OS9-17 Effects of a Tailpipe on Hole Tone Phenomena <i>K. Matsuura, M. Nakano</i></p> <p>17:10-17:30 OS9-18 Interaction between Self-Sustained Flow Oscillations and Acoustic Resonance in a Cavity-Pipe System <i>M. A. Langthjem, M. Nakano</i></p>		<p>16:30-16:50 OS2-14 Characteristics of Olefin Weak Flames in a Micro Flow Reactor with a Controlled Temperature Profile <i>S. Kikui, H. Nakamura, T. Tezuka, S. Hasegawa, K. Maruta</i></p> <p>16:50-17:10 OS2-15 Experimental and Numerical Investigations of Laminar Burning Velocity of Ammonia/air Premixed Flames <i>A. Hayakawa, T. Goto, R. Mimoto, T. Kudo, H. Kobayashi</i></p>	<p>16:30-17:10 CS5-1 Beyond CFD: Design Exploration and Data Assimilation <i>S. Obayashi</i></p> <p>17:20-18:00 CS5-2 Enhancement of Aggressive Intensity of a Cavitating Jet and Its Application to Mechanical Surface Treatment for Improvement of Fatigue Strength of Metallic Materials <i>H. Soyama</i></p>	<p>16:30-16:50 GS1-25 PIV Flowfield Analysis around Flapping Wing Object via Proper Orthogonal Decomposition <i>Y. Fujii, K. Hirayama, W. Yamazaki</i></p> <p>16:50-17:10 GS1-26 Investigation of Dynamic Characteristics of Pitching Flat-plate by Dynamic Wind-Tunnel Testing <i>T. Ambo, T. Senzaki, D. Numata, K. Asai</i></p>	<p>16:30-17:20 OS4-5 <i>Invited</i> Physically Based Fatigue Monitoring of Metals <i>D. Eifler, M. Smaga, M. Klein</i></p> <p>17:20-17:35 OS4-6 Nondestructive Evaluation of Plastic Deformation in Biaxial Specimen using Pulsed ECT Method <i>S. Xie, Z. Chen, T. Takagi, T. Uchimoto, K. Yoshihara</i></p>

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<p>17:15-17:30 CS2-16 A Numerical Study of Shock-bubble Dynamics based on the Multi-Equation Model <i>Y.-Y. Niu, P.-J. Shih, H.-W. Wang</i></p> <p>17:30-17:45 CS2-17 Relationships Between Symmetry of Vortical Flow and Pressure Minimum Feature Derived from Flow Kinematics in Local Approach <i>K. Nakayama, Y. Ohira, H. Hasegawa</i></p> <p>17:45-18:00 CS2-18 Flow Reversal of Natural Convection in Vertical Parallel Plates with Asymmetrically Heating <i>C.-J. Chen, S.-H. Huang, W.-S. Fu</i></p>	<p>17:30-17:50 OS9-19 Three-dimensional Wavelet Transform of a Dune Wake <i>Y. Zheng, A. Rinoshika</i></p>		<p>17:10-17:30 OS2-16 Sooting Behavior of Alkanes in a micro Flow Reactor with a Controlled Temperature Profile <i>A. K. Dubey, T. Tezuka, S. Hasegawa, H. Nakamura, K. Maruta</i></p> <p>17:30-17:50 OS2-17 Experimental Study on Flame Spread in Parallel Plates <i>T. Yamazaki, T. Matsuoka, Y. Nakamura, S. Noda</i></p>		<p>17:10-17:30 GS1-27 The Development of the 0.3-m Magnetic Suspension and Balance System <i>D. Noguchi, S. Taniguchi, T. Ambo, D. Numata, K. Asai</i></p> <p>17:30-17:50 GS1-28 Conceptual Design of the Blended Wing Body Type Business Jet <i>H. Choi, M. Ryu, J. Kim, J. Cho</i></p>	<p>17:35-17:50 OS4-7 Development of Guided Wave Testing System Using Electromagnetic Acoustic Transducer Array <i>A. Furusawa, A. Morikawa, F. Kojima</i></p> <p>17:50-18:00 Introduction of JSPS core-to-core program "International research core on smart layered materials and structures for energy saving" <i>T. Takagi</i></p>
18:00	<p>BANQUET @ SAKURA</p>					18:00
20:00						20:00

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MEETING ROOM 1	MEETING ROOM 2	TACHIBANA	MEETING ROOM 4	MEETING ROOM 6	MEETING ROOM 8
<p align="center">CS2: Heat and Fluid Flow <i>Chair: M.-C. Lu</i></p>	<p align="center">OS6: Advanced Physical Stimuli and Biological Responses <i>Chair: T. Ohta</i></p>	<p align="center">OS3: The Second International Symposium on Innovative Energy Research III Multiphase Energy Science and Risk Mitigation <i>Chair: J. Ishimoto</i></p>	<p align="center">GS1: General Session GS1-H CFD <i>Chair: S. Izawa</i></p>	<p align="center">GS1: General Session GS1-L Rarefied Gas Dynamics, Microflow <i>Chair: V. L. Saveliev</i></p>	<p align="center">OS4: International Symposium on Smart Layered Materials and Structures for Energy Saving (Joint Symposium)</p>
<p>9:00-9:30 CS2-19 <i>Keynote</i> Heat Transfer Measurement in Rotating Internal Cooling Channels Using Liquid Crystal Thermography <i>Y.-H. Liu, S.-C. Huang, C.-W. Yen</i></p> <p>9:30-9:45 CS2-20 Optical Skin Friction Measurement in Hypersonic Flow Utilizing LCCs <i>X. Chen, D. Yao, S. Wen, J. Gong, Z. Bi</i></p> <p>9:45-10:00 CS2-21 Heat-Flux Measurement of Flat-Plate with Cylinder using Phosphor Thermography Technique <i>J. Gong, Z. Bi, S. Han, C. Wu, J. Fu</i></p> <p>10:00-10:15 CS2-22 Non-Intrusive Polynomial Chaos based Uncertainty Quantification of Heat Transfer Performance of High Temperature Blade <i>J. Nie, Y. Song, L. Song, J. Li</i></p> <p>10:15-10:30 CS2-23 Effect of Pressure on Adsorption/Desorption of Zeolite 4A <i>Y.-C. Chu, L.-C. Weng, P.-C. Tseng, N.-C. Chang, C.-C. Wang</i></p>	<p>Opening <i>T. Sato</i></p> <p>9:30-10:00 OS6-1 <i>Invited</i> Cold Atmospheric Plasma Treatment on Eukaryotic and Prokaryotic Cells <i>T. Shimizu, J. L. Zimmermann, G. E. Morfill</i></p> <p>10:00-10:30 OS6-2 <i>Invited</i> Biological Flow Generated by Cilia and Flagella <i>T. Ishikawa</i></p>	<p>9:00-9:30 OS3-1 <i>Invited</i> Decomposition Mechanism of PMMA-type Polymers by Hydrogen Radicals <i>H. Horibe</i></p> <p>9:30-10:00 OS3-2 <i>Invited</i> Behavior of the Polymeric Material subjected to the Fire: Direct Numerical Simulation of Melting and Deforming Processes of Degrading Polymeric Material <i>Y. Nakamura, A. Hossain, Y. Kim</i></p> <p>10:00-10:30 OS3-3 <i>Invited</i> Scale-model Experiments of Large-scale Fires <i>K. Kuwana</i></p>	<p>9:00-9:20 GS1-29 A Priori Test of Subgrid-scale Model by Machine Learning in a Turbulent Channel Flow <i>M. Gamahara, Y. Hattori</i></p> <p>9:20-9:40 GS1-30 Numerical Simulation of 3-D Supercritical-fluid Flows using BCM and Meshless Method <i>S. Qi, T. Furusawa, S. Yamamoto</i></p> <p>9:40-10:00 GS1-31 A Multi-step Aircraft Icing Simulation Method Based on Remesh Technology <i>C. Zhu, C. Zhu, L. Liu</i></p> <p>10:00-10:20 GS1-32 High Resolution Implementation of von Neumann-Richtmyer Typed Artificial Viscosity for Shock Capturing Scheme <i>N. Fujimatsu</i></p>	<p>9:00-9:20 GS1-44 A Shock Wave Structure by Different Numerical Approaches <i>E. Malkov, A. Kokhanchik, S. Poleshin, Y. Bondar</i></p> <p>9:20-9:40 GS1-45 Hypersonic Flow Modeling Using Parallel Direct Simulation Monte Carlo Code (PDSC⁺⁺) <i>C.-C. Su, M.-C. Lo, J.-S. Wu, Y.-S. Chen</i></p> <p>9:40-10:00 GS1-46 A Study of Micro/Nanoscale Gas Lubrication Based on Molecular Gas Dynamics <i>S. Yonemura, V. Saveliev, M. Yamaguchi, S. Isono, Y. Kawagoe, T. Takeno, H. Miki, T. Takagi</i></p> <p>10:00-10:20 GS1-47 The Study of Pressure Distribution in Microchannel Flow for Gas-MEMS Applications <i>J.-S. Lee, S.-A. Wan, F.-H. Chou, H.-Y. Wang, C.-Y. Huang</i></p>	<p>9:30-10:30 Free Discussion</p>
<p>BREAK</p>					

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<p>CS2: Heat and Fluid Flow Chair: C.-Y. Chen</p>	<p>OS6: Advanced Physical Stimuli and Biological Responses Chair: S. Kawano</p>	<p>OS3: The Second International Symposium on Innovative Energy Research III Multiphase Energy Science and Risk Mitigation Chair: J. Ishimoto</p>	<p>GS1: General Session GS1-I Aerodynamics Chair: N. Ohnishi</p>	<p>GS1: General Session GS1-M Micro Flow, PSP, TSP Chair: C.-Y. Huang</p>	<p>OS4: International Symposium on Smart Layered Materials and Structures for Energy Saving (Joint Symposium) Chairs: F. Lundell Y. Iga</p>
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		14:50-15:20 OS6-8 <i>Invited</i> Control of Cell Viability Treated by Neutral Oxygen Species <u>T. Ohta, M. Ito, H. Hashizume, K. Takeda, K. Ishikawa, M. Hori</u>		14:50-15:10 GS1-41 An Experimental Investigation on Aerodynamic Characteristics of External Nozzle in Hypersonic Propulsion System <u>T. Isono, S. Tomioka, H. Takahashi, N. Sakuranaka, M. Ono, R. Mikoshiba</u>		14:50-15:15 OS4-16 Fabrication of Lead-based Relaxor Piezoelectric Ceramics with High Performance <u>K. Zhu, J. Du, J. Qiu</u>	

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<p>16:20</p>	<p>15:20-15:50 OS6-9 <i>Invited</i> Study on Shock Wave Propagation Phenomena in Simulated Materials for Understanding Mechanism of the Primary Blast Induced Traumatic Injury <u>K. Ohtani</u>, A. Nakagawa, K. Goda, D. Numata</p> <p>15:50-16:05 OS6-10 Optical Observations and Theoretical Models of DNA Flow at Nanoscale <u>S. Uehara</u>, S. Kawano</p> <p>Closing <i>T. Ohashi</i></p>		<p>15:10-15:30 GS1-42 Wind Tunnel Test on New Reaction Control System without High-Pressure Source <u>Y. Ono</u>, K. Fukiba, Y. Yamaguchi, Y. Maru</p> <p>15:30-15:50 GS1-43 Numerical Investigation of a Tantalum Block Subjected to Underwater Shock Wave Loading <u>T. Koita</u>, T. Gonai, M. Sun, S. Owada, T. Nakamura</p>		<p>15:15-15:40 OS4-17 Development of Smart Fatigue Sensor using Metal-containing Amorphous Carbon Coatings <u>H. Kosukegawa</u>, M. Takahashi, J. Fontaine, T. Takeno, H. Miki, T. Takagi</p> <p>15:40-16:05 OS4-18 Ferrimagnetism in Kagome - Type Antiferromagnet Ni(NO₃)₂ O. S. Volkova, V. V. Mazurenko, I. V. Solovyev, E. B. Deeva, I. V. Morozov, J.-Y. Lin, C.-K. Wen, J. Chen, M. Abdel-Hafiez, <u>A. N. Vasiliev</u></p> <p>16:05-16:30 OS4-19 MoS₂-DLC Nanocomposite Coating for Low Friction Systems <u>T. Takeno</u>, K. Ikoma, T. Takagi, K. Adachi</p> <p>Closing <i>C. Boller</i></p> <p>16:20</p>
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