

## GS1: General Session

November 6, 2019

CON-5

- GS1-1      **Numerical Analysis of Thermochemical Nonequilibrium Flow in Expansion Tube by Adaptive Mesh Refinement Technique**  
14:00-14:20      Hiroki Sakamoto, Masayuki Takahashi, Naofumi Ohnishi (Tohoku University, Japan)
- GS1-2      **Mass Piston Effect in Near-critical Fluid Mixtures: Theory and Simulations**  
14:20-14:40      Zhan-Chao Hu, Xin-Rong Zhang (Peking University, China)
- GS1-3      **Experimental Study on Heating Characteristics of a Hartmann-Sprenger Tube**  
14:40-15:00      Jun Ishihara, Akira Urita, Taro Handa (Toyota Technological Institute, Japan)
- GS1-4      **An Investigation on Covariance Functions of Kriging for Surrogate Modeling in Fluid Dynamics**  
15:40-16:00      Pramudita Satria Palar, Lavi Rizki Zuhail (Institut Teknologi Bandung, Indonesia), Rhea Patricia Liem (The Hong Kong University of Science and Technology, Hong Kong, China), Koji Shimoyama (Tohoku University, Japan)
- GS1-5      **Experimental Study on Flow around Edges and Curved Surface of a Rotating Disk**  
16:00-16:20      Yu Nishio (Seikei University, Japan), Kohei Komori, Seiichiro Izawa, Yu Fukunishi (Tohoku University, Japan)
- GS1-6      **Statistical Characteristics of Boundary Layer over Compliant Wall using Hot-Wire Anemometry**  
16:20-16:40      Yukinori Ichinose, Nobuyoshi Fujimatsu (Toyo University, Japan)
- GS1-7      **Structure Formation and Control Surface Actuation of Deployable Wing for Planetary Probe Using Inflatable-tube-embedded Laminated Thin Films with Different Thickness**  
17:20-17:40      Ippei Takahashi (Japan Aerospace Exploration Agency, Japan), Koji Fujita (Tohoku University, Japan)
- GS1-8      **Study on Effect of Discharge Resistance on Electrical Discharge Forming in Water-Backed Plate Model**  
17:40-18:00      Taketoshi Koita (Saitama Institute of Technology, Japan), Takao Namihira, Mikiya Matsuda (Kumamoto University, Japan), Masaki Furuta, Taro Nagano (Saitama Institute of Technology, Japan)
- GS1-9      **Numerical Analyses on Solitary Wave Reflected by a Vertical Wall with a Rectangular Block**  
18:00-18:20      Chih-Hua Chang (Ling-Tung University, Taiwan)

November 7, 2019

CON-5

- GS1-10      **Lift-Force Characterization on a Pantograph for Conventional Railway under Cross-Wind Environment**  
9:00-9:20      Tatsushi Isono, Takeshi Mitsumoji, Hiromasa Hirakawa, Takayuki Usuda (Railway Technical Research Institute, Japan)
- GS1-11      **Computational Fluid Dynamics Simulations for Aerodynamic Performance Evaluation of Suborbital Space Vehicle**  
9:20-9:40      Muhammad Hilmi Al Fatih, Koji Shimoyama (Tohoku University, Japan), Kazumasa Kamisori (PD Aerospace, LTD., Japan)
- GS1-12      **Numerical Investigation on Aerodynamic Characteristics of NACA0012 Wing in the Accelerating/Decelerating Flows**  
9:40-10:00      Yuki Shimojo, Nobuyoshi Fujimatsu (Toyo University, Japan)
- GS1-13      **Experimental Investigation of Propeller Slipstream Effect on Membrane-Skin Wing at Low Reynolds Number**  
10:00-10:20      Koji Fujita, Kechacoop Kanbodin, Koichi Takahashi, Hiroki Nagai (Tohoku University, Japan)
- GS1-14      **Fast Exponential Time Discretizations of the Navier-Stokes Equations**  
10:40-11:00      Shu-Jie Li (Beijing Computational Science Research Center, China)
- GS1-15      **Numerical Investigation on Non-advection Treatment for CIP Method on Curvilinear Coordinate**  
11:00-11:20      Yusuke Horikoshi, Nobuyoshi Fujimatsu (Toyo University, Japan)
- GS1-16      **Setup and Operation of Automated Regression Tests for CFD Solvers**  
11:20-11:40      Paul Zehner, Takashi Ishida (Japan Aerospace Exploration Agency, Japan)
- GS1-17      **Aerostructural Analysis for Composite Aircraft Wings with Various Fiber Properties**  
11:40-12:00      Shugo Date, Yoshiaki Abe, Takeki Yamamoto (Tohoku University, Japan), Tomonaga Okabe (Tohoku University, Japan / University of Washington, USA)
- GS1-18      **Numerical Investigation of Transonic Moist-air Flow in Whole-annulus Compressor Blade Rows**  
13:10-13:30      Shota Moriguchi, Takuro Endo, Hironori Miyazawa, Takashi Furusawa, Satoru Yamamoto (Tohoku University, Japan)
- GS1-19      **Numerical Simulation of Unsteady Flows through First-stage Stator and Rotor Blade Rows in Middle Pressure Steam Turbine**  
13:30-13:50      Hironori Miyazawa, Akihiro Uemura, Takashi Furusawa, Satoru Yamamoto (Tohoku University, Japan), Koichi Yonezawa (Central Research Institute of Electric Power Industry, Japan), Shuichi Umezawa (Tokyo Electric Power Company Holdings, Inc., Japan)

- GS1-20      **Numerical Analysis on Aerodynamic Characteristics of Three-dimensional Iced Rotor**  
 13:50-14:10      Zhengzhi Wang, Chunling Zhu, Ning Zhao (Nanjing University of Aeronautics and Astronautics, China)
- GS1-21      **Numerical Investigation of Octane Flows with Pyrolysis under Supercritical Pressure**  
 14:10-14:30      Shuto Yatsuyanagi, Takashi Furusawa, Satoru Yamamoto (Tohoku University, Japan), Sadatake Tomioka (Japan Aerospace Exploration Agency, Japan)
- GS1-22      **Investigations of the Aerodynamic Characteristics of Vertical Axis Wind Turbine with Wavy Leading Edge**  
 14:50-15:10      Jen-Chieh Cheng, Chun-Hsiang Wang, Jyun-Yu Chen (National Formosa University, Taiwan)
- GS1-23      **Robust Optimization of a Blade Airfoil Shape for a Small Vertical Axis Wind Turbine**  
 15:10-15:30      Shinya Imai, Naohiko Ban, Wataru Yamazaki (Nagaoka University of Technology, Japan)
- GS1-24      **Investigation of Performance Coefficient of Small Propellers in Waste Water Pipes**  
 15:30-15:50      Nabila Prastiya Putri, Hiroyuki Asada, Yoshifumi Ogami (Ritsumeikan University, Japan)
- GS1-25      **Effects of Leading-Edge Protuberances on Power Performance of Horizontal-axis Wind Turbine**  
 15:50-16:10      Yan-Ting Lin (Institute of Nuclear Energy Research, Taiwan)
- GS1-26      **Flow and Heat Transfer Characteristics of Wall Jets from a Row of Orifices**  
 16:30-16:50      Chayut Nuntadusit, Nioh Puzu (Prince of Songkla University, Thailand)
- GS1-27      **A General Approach to Modeling Jet-Turbulence Interaction Problems using Rapid-distortion Theory**  
 16:50-17:10      Mohammed Z. Afsar (University of Strathclyde, UK)
- GS1-28      **Experimental Investigation of Cavity-Actuated Sweeping Jet –Effect of Channel Geometry–**  
 17:10-17:30      Ikuhiro Fujimura, Akira Urita, Taro Handa (Toyota Technological Institute, Japan)
- GS1-29      **Application of Small Supersonic Oscillatory-Jet to Supersonic Mixing Enhancement**  
 17:30-17:50      Shota Miyazaki, Akira Urita, Taro Handa (Toyota Technological Institute, Japan)

**November 8, 2019**

**CON-5**

- GS1-30      **Numerical Study on Weakly Nonlinear Propagation of Pressure Waves in Bubbly Liquids**  
9:00-9:20      Takahiro Ayukai, Tetsuya Kanagawa (University of Tsukuba, Japan)
- GS1-31      **Theoretical Study on an Effect of Thermodynamics Inside Bubble on Weakly Nonlinear Waves in Bubbly Liquids**  
9:20-9:40      Takafumi Kamei, Takahiro Ayukai, Tetsuya Kanagawa (University of Tsukuba, Japan)
- GS1-32      **Study on the Effect of Hydrophilicity / Hydrophobicity on Atomization Performance of Nozzle Wall**  
9:40-10:00      Qingfei Fu, Fei Ge, Yajun Liang, Lijun Yang (Beihang University, China)
- GS1-33      **Theoretical Prediction on Nonlinear Propagation of Precursor in Compressible Bubbly Liquids**  
10:00-10:20      Takanori Yoshimoto, Ryosuke Akutsu, Tetsuya Kanagawa, Yusuke Uchiyama (University of Tsukuba, Japan)
- GS1-34      **Radiative Transfer Analysis on Solar Barrier Cooling Mist by Nano-Particulate Media**  
10:40-11:00      Hiroki Gonome, Kohei Wakabayashi (Yamagata University, Japan)
- GS1-35      **Evaluation of Thermal Characteristics of a Cooling System for Lithium-ion Battery with Forced Air Flow**  
11:00-11:20      Daisuke Kobayashi, Ryo Suyama, Naoki Ono (Shibaura Institute of Technology, Japan)
- GS1-36      **Visualization Study of Multi-evaporators Loop Heat Pipe under Different Heating Conditions**  
11:20-11:40      Xinyu Chang, Hiroki Nagai (Tohoku University, Japan), Noriyuki Watanabe, Hosei Nagano (Nagoya University, Japan), Hiroyuki Ogawa (Institute of Space and Astronautical Science, Japan)
- GS1-37      **Evaluation of Heat Transfer Performance of a Heat Sink with Microchannels of Different Diameters**  
11:40-12:00      Yusuke Nishimura (Tohoku University / Keihin Corporation, Japan), Junnosuke Okajima (Tohoku University, Japan), Takuya Oouchi, Masaru Sasaki (Keihin Corporation, Japan), Atsuki Komiya (Tohoku University, Japan)
- GS1-38      **Molecular Dynamics Study of Velocity Profile Near the Liquid-gas Interface in Bubble Growth on Solid Wall**  
13:10-13:30      Souta Kakamu, Tatsuya Tsuneyoshi, Yoshiyuki Tsuji (Nagoya University, Japan), Takahiro Ito (Chubu University, Japan)
- GS1-39      **Reliability Characterization of Gallium Nitride (GaN) HEMT Cascode Switch for Power Electronics Applications**  
13:30-13:50      Surya Elangovan, Lin Jing Heng, Stone Cheng (National Chiao Tung University, Taiwan)

GS1-40      **Drag Forces on Nonspherical Particles in Dilute Gases**  
13:50-14:10      Jun Wang, Song Yu, Guodong Xia (Beijing University of Technology, China)

GS1-41      **Fluid Flow Analysis in Improving the Design of a Micro Compressor for Micro Gas  
Turbine using Computational Fluid Dynamics**  
14:10-14:30      Kamran Siddique, Hiroyuki Asada, Toshiyuki Toriyama, Yoshifumi Ogami  
(Ritsumeikan University, Japan)