

**The 5th
Tohoku University – Seoul National University
Joint Workshop
on Next Generation Aero Vehicle**

June 17-18, 2010, Institute of Fluid Science, Tohoku University

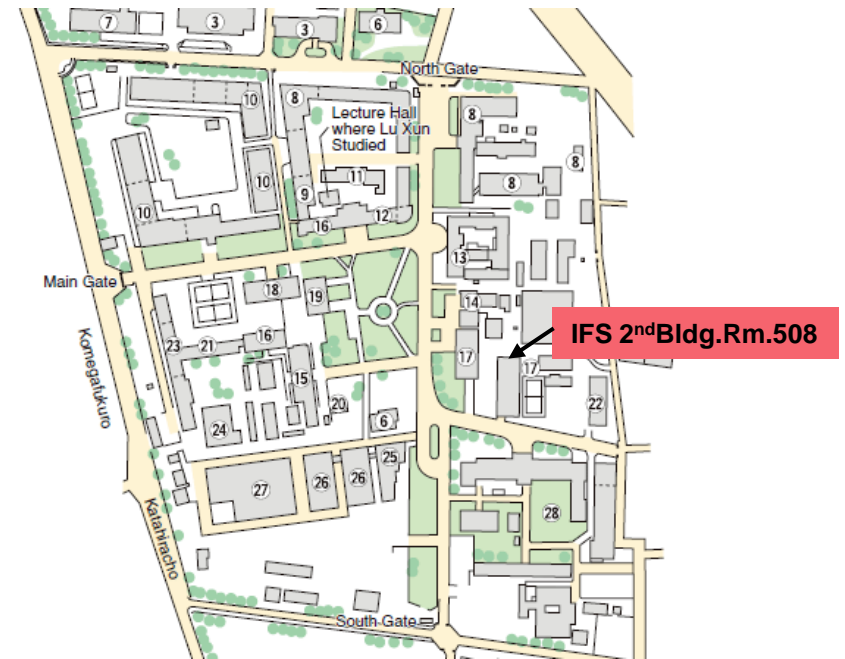


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**Institute of Fluid Science
Tohoku University, Sendai, Japan**

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Schedule

June 17 (Thu), 2010

Opening	
10:00-10:10	Opening Address (Director of Institute of Fluid Science Prof. Toshiyuki Hayase)
Student Presentations I	
10:10-10:30	"Advantage of Supersonic Biplane for Aircraft Design Concerning Sonic Boom Minimization", <u>Yuki UTSUMI</u> , and Shigeru OBAYASHI (Tohoku Univ.)
10:30-10:50	"Conceptual Design of Solar Powered UAV for High Altitude and Long Endurance", <u>Sanggyu MIN</u> , Kyung-Hyun PARK (SNU.), Jon AHN (Sejong Univ.), Changdon KEE, and Dongho LEE (SNU.)
10:50-11:10	"Evaluation of Advection and Decay Process for Wake Vortices Based on Meteorological Factors", <u>Hiroshi KATO</u> , Shigeru OBAYASHI (Tohoku Univ.), Izumi YAMADA (ENRI), and Yoshinori OKUNO (JAXA)
11:10-11:30	"Design Optimization of Transonic Wing/Fuselage System using Proper Orthogonal Decomposition", <u>Kyung-Hyun Park</u> , Sang-Ook Jun, Maeng-Hyo Cho, and Dongho LEE (SNU.)
11:30-13:00	Lunch Break
Student Presentations II	
13:00-13:20	"Numerical Analysis of a 150kW Enhanced Huels Type Arc Heater", <u>Sang Hoon HAN</u> , and Kyu-Hong KIM (SNU.)
13:20-13:40	"Numerical Simulation of an Applied-Field MPD Thruster", <u>Kazuya SHIMAKURA</u> , Hosik LEE, Kazuyuki UENO, and Keisuke SAWADA (Tohoku Univ.)
13:40-14:00	"Aerodynamic Characteristics of a Tube Train", <u>Tae-Kyung KIM</u> , and Kyu-Hong KIM (SNU.)
14:00-14:20	"Data Compression Method for Large-Scale CFD by Building-Cube Method", <u>Ryotaro SAKAI</u> , Daisuke SASAKI, and Kazuhiro NAKAHASHI (Tohoku Univ.)
14:20-14:40	Coffee Break
Student Presentations III	
14:40-15:00	"Leading Edge Receptivity to Oncoming Vortices", <u>Yu NISHIO</u> , Masaya SHIGETA, Seiichiro IZAWA, and Yu FUKUNISHI (Tohoku Univ.)
15:00-15:20	"Numerical Study on Aerodynamic Effects of the Structural Modeling in Insects' Flapping Flight", <u>Kuen-Bae LEE</u> , Jin-Ho KIM, and Chongam KIM (SNU.)

Student Presentations III (Continued)	
15:20-15:40	"Relation between Waveforms of Piezo-Actuator Driving Signals and Excited Velocity Fluctuations inside a Flat-Plate Boundary Layer", <u>Hajime OKAWA</u> , Masaya SHIGETA, Seiichiro IZAWA, and Yu FUKUNISHI (Tohoku Univ.)
15:40-16:00	"Web-based CFD Education using e-AIRS System", <u>Jin-Ho KIM</u> , Kuen-Bae LEE (SNU.), Jong Bae MOON (KISTI), and Chongam KIM (SNU.)
16:00-16:20	Coffee Break
Student Presentations IV	
16:20-16:40	"Stabilization of Lifted Non-premixed Turbulent Hydrogen Jet Flame with Coaxial Air", <u>Jeongjae HWANG</u> , Jeongseog OH, Kyong-yup PAIK, Youngbin YOON (SNU.)
16:40-17:00	"Large-Eddy Simulation of a Transverse Jet in Supersonic Flow", <u>Junya WATANABE</u> , Toshinori KOUICHI, Kenichi TAKITA, and Goro MASUYA (Tohoku Univ.)
17:00-17:20	"Spray Characteristics of a Gas-Centered Swirl Coaxial Injector", Ji-Hyuk IM, <u>Gujeong PARK</u> , Seongho CHO, and Youngbin YOON (SNU.)
17:20-17:40	"Three Dimensional Flow Effects on the Mixing and Combustion of Transversal Fuel Jet Interacting with Incident Shock Wave", <u>Yu KITAHARA</u> , Toru MAI, Hisashi NAKAMURA, Yasuhiro OGAMI, Taku KUDO, and Hideaki KOBAYASHI (Tohoku Univ.)
17:40-18:00	"Correlation of Fuel Injection Locations and Combustion in Unheated Supersonic Flow", <u>Chae-hyoung KIM</u> , In-Seuck JEUNG (SNU), Byungil CHOI, Toshinori KOUCHI, and Goro MASUYA (Tohoku Univ.)
18:30-20:30	Banquet

June 18 (Fri), 2010

Student Presentations V	
10:00-10:20	"Stereoscopic PIV Measurement of a Transverse Jet into a Supersonic Flow with Pseudo-Shock Wave", <u>Byungil CHOI</u> , Koichi TAKAE, Toshinori KOUCHI, and Goro MASUYA (Tohoku Univ.)
10:20-10:40	"Optimizing LIBS for Lunar Exploration", <u>Ardian B. GOJANI</u> , Soo-Jin CHOI, Suk-Hwan LEE, Chang-Hwan KIM, and Jai-Ick YOH (SNU.)
10:40-11:00	"Three-stage Oxidation of a n-Heptane/Air Mixture in a Micro Flow Reactor with a Controlled Temperature Profile", <u>Akira YAMAMOTO</u> , Hiroshi OSHIBE, Hisashi NAKAMURA, Takuya TEZUKA, Susumu HASEGAWA, and Kaoru MARUTA (Tohoku Univ.)
11:00-11:20	"Numerical Study of Thermal Explosion Behavior of AP/HTPB Propellant in Solid Rocket Motor", <u>Ki-Hong KIM</u> and Jai-Ick YOH (SNU.)
11:20-11:40	"Soot Formation Characteristics in a Micro Flow Reactor with a Controlled Temperature Profile", <u>Ryu TANIMOTO</u> , Takuya TEZUKA, Susumu HASEGAWA, Hisashi NAKAMURA, Kaoru MARUTA (Tohoku Univ.)