



15:20-15:50

Thermal Stratification and Mixing under Single and Two-Phase Flow in Rod Bundle with Axially Distributed Heat Flux in Stagnant Water, S. Kodama (Nuclear Engineering Ltd), K. Yoshida, I. Kataoka (Osaka Univ)

15:50-16:20

Reducing Two-Phase Pressure Drop with a Flow Channel of Non-uniform Wettability in the Circumferential Direction, T. Okawa (The Univ of Electro-Communications), T. Kinoshita, K. Takeda (Osaka Univ)

**Saturday, June 9, 2012**

### **Technical Session (3)**

Chair: H. Kikura (Tokyo Institute of Technology)

9:30-10:20          Keynote Lecture

Assessment of the Upwind First Order Scheme Applied to the One-Dimensional Two-Fluid Model in the Context of the Kelvin-Helmholtz Instability, W. Fullmer, V. H. Ransom, M. L. Bertodano (Purdue Univ)

10:20-10:50

Water Inlet Subcooling Effects on Flooding with Steam and Water in a Large Diameter Vertical Tube, W. Cullum, J. Reid, K. Vierow (Texas A&M Univ)

10:50-11:10          Coffee Break

11:10-11:40

Passive Core Cooling System: Supersonic Steam Injector, Y. Abe, S. Shibayama, A. Kaneko (Univ of Tsukuba), C. Iwaki (Toshiba Corporation), T. Narabayashi (Hokkaido Univ), M. Mori (Meiji Univ)

11:40-12:10

Bubble-Jet-Type Air-Lift Pump for Pumping Water and Sediments Deposited on Lake and Sea Beds, M. Sadatomi, A. Kawahara (Kumamoto Univ), T. Nishiyama (Mitsubishi Electric Co. Ltd)

### **Technical Session (4)**

Chair: A. Kawahara (Kumamoto Univ)

13:40-14:30          Keynote Lecture

Broad Destruction of Density Stratification Using a Single Bubble Plume, Y. Murai, H. Kayukawa, Y. Tasaka, I. Kumagai, H. Kitaura (Hokkaido Univ), S. Kino (Marine Technology Institute Co. Ltd)

14:30-15:00

Measurement of Subcooled Flow Boiling Using Particle Tracking Velocimetry and Infrared Thermographic Technique, C. E. Estrada-Perez, J. S. Yoo, Y. A. Hassan (Texas A&M Univ)

15:00-15:20          Coffee Break

15:20-15:50

Development of a Submersible Small Fiber LDV for Measuring Complex Multiphase Flows, S. Hosokawa, A. Tomiyama (Kobe Univ)

15:50-16:20

Local Gas and Liquid Parameter Measurements in Air-water Two-Phase Flows, B. Doup, X. Zhou, X. Sun (The Ohio State Univ)

16:20-16:50

Accumulation and Removal of Particulate Matter on SCR Catalyst of Marine Diesel Engine, A. Sou (Kobe Univ)

**Sunday, June 10, 2012**

### **Technical Session (5)**

Chair: S. Hosokawa (Kobe Univ)

9:30-10:20      Keynote Lecture

Results of Recent Nucleate Pool Boiling Experiments on the International Space Station, G. R. Warrier, V. K. Dhir (UCLA)

10:20-10:50

New Experimental Approach to Boiling Heat Transfer Mechanism (MEMS Sensor and High-Resolution Fast Interferometry), O. Nakabeppu, T. Yabuki, T. Hamaguchi (Meiji Univ)

10:50-11:10      Coffee Break

11:10-11:40

Effects of Return Bend and Liquid Properties on Pressure Drop for Two-Phase Flows in Rectangular Microchannels, A. Kawahara, M. Sadatomi, S. Shimokawa (Kumamoto Univ)

11:40-12:10

Two Phase Flow Measurement on Taylor Vortex Flow by Using UVP and WMT, H. Kikura, T. T. Nguyen, A. Hamdani (Tokyo Institute of Technology)

### **Technical Session (6)**

Chair: M. Kawaji (City College of New York)

13:40-14:30      Keynote Lecture

Full Eulerian Methods for Fluid-Structure/Membrane Interaction Problems, K. Sugiyama (The Univ of Tokyo)

14:30-15:00

Multiscale Issues in DNS of Multiphase Flows, G. Tryggvason, S. Dabiri, B. Aboulhasanzadeh (Univ of Notre Dame), J. Lu (Worcester Polytechnic Institute)

15:00-15:20 Coffee Break

15:20-15:50

Effects of Surfactant on the Motion of Bubbles in Linear Shear Flows, K. Hayashi, R. Kurimoto, S. Hosokawa, A. Tomiyama (Kobe Univ)

15:50-16:40 Pre-Panel Special Talk

The SOARCA Project and Analysis of Heat Transfer/Two-Phase Flow during Postulated Severe Accidents, K. Vierow (Texas A&M Univ)

**Monday, June 11, 2012**

**Special Session Sponsored by The Japanese Society for Multiphase Flow**

“Special Seminar on Two-Phase Flow and Heat Transfer Research Post Fukushima Accident”

Session Co-Organizer: K. Okamoto, The Univ of Tokyo  
A. Yamaguchi, Osaka Univ  
M. Kawaji, The City College of New York

9:00 Opening M. Sadatomi, Kumamoto Univ  
President of The Japanese Society for Multiphase Flow

**Panel Lectures (1)**

Chairs: K. Okamoto (The Univ of Tokyo), A. Yamaguchi (Osaka Univ)

9:10-9:40

Identification of Future Needs and Directions for Two-Phase Flow Research, M. Kawaji (The City College of New York)

9:40-10:10

TEPCO Fukushima Daiichi Severe Accident Study MAAP Analysis and Results, Y. Yamanaka, S. Mizokami, M. Watanabe, T. Honda (Tokyo Electric Power Company)

10:10-10:40

Preliminary Analysis of Accident Progression of Fukushima Dai-ichi Unit 1 with SAMPSON Code and Major Uncertainties, M. Naitoh, H. Suzuki, H. Okada (Institute of Applied Energy)

10:40-11:00 Coffee Break

11:00-11:30

Challenges in Two-phase Flow and Reactor Safety Research after Fukushima Accident, M. Ishii (Purdue Univ)

11:30-12:00

Lessons Learned from Fukushima-Daiichi Severe Accident, K. Okamoto (The Univ of Tokyo)

12:00-12:30

Recent Issues in Reactor Thermalhydraulics and Safety, S. Banerjee (The City Univ of New York)

12:30-13:40 Lunch

### **Panel Lectures (2)**

Chair: M. Kawaji (The City College of New York)

13:40-14:10

OECD-NEA Projects on Severe Accident and An Example of Melt Behavior Simulation in JAEA, H. Nakamura (Japan Atomic Energy Agency)

14:10-14:40

Uncertainty of Source Terms Evaluation in Severe Accident and Level 2 PRA, A. Yamaguchi (Osaka Univ)

14:40-15:10

Phenomena Identification in Severe Accident Sequence and Safety Issues for Severe Accident Management of Light Water Reactors, Y. Abe (Univ of Tsukuba)

15:10-15:30 Coffee Break

15:30-16:00

Nuclear Systems Multiphase Flow Phenomena: Post-Fukushima, M. Corradini (Univ of Wisconsin)

16:00- Discussions

17:00 Closing M. Kawaji, The City College of New York

### **Seminar Banquet (Daiichi Hotel Tokyo Seafort)**

18:30-20:30

### **Tuesday, June 12, 2012**

10:00-12:00 Closing Session