

# Japan-Taiwan International Conference on Magnetic Fluids 2016 Program

December 08-10, 2016

Centennial Hall, Hokkaido University, Sapporo, Japan

## Thursday, 8th of December, 2016

- 18:00            **Registration**  
                  @Faculty House TRLLIUM (Enreiso), Hokkaido University
- 18:30 – 20:00    **Banquet of the Japanese Symposium on Magnetic Fluids 2016**  
**(Welcome Reception for Researchers from Taiwan)**  
                  @Faculty House TRLLIUM (Enreiso), Hokkaido University  
\* Only Taiwanese participants will be invited to the banquet

## Friday, 9th of December, 2016

- 9:00 – 9:20        **Registration**  
                  @Centennial Hall (Hyakunen kinen kaikan), Hokkaido University
- 9:20 – 9:30        **Opening Ceremony**
- 9:30 – 10:45      **Invited Talks I**  
                  Chair: Y. Ido, Nagoya Institute of Technology, Japan
- 9:30 – 9:55        **IT-1**  
                  **Towards Designed Synthesis of Metallic Nanoparticles in Polyol**  
                  **B. Jeyadevan<sup>a</sup>**  
                  <sup>a</sup>The University of Shiga Prefecture, Japan
- 9:55 – 10:20      **IT-2**  
                  **Magnetic Particle Imaging with Array Gradient Pick-up Coils**  
                  **S.-H. Liao<sup>a</sup>, J.-J. Chieh<sup>a</sup>, H.-E. Horng<sup>a</sup>, H.-C. Yang<sup>a</sup>, S. Tanaka<sup>b</sup>**  
                  <sup>a</sup>National Taiwan Normal University, Taiwan  
                  <sup>b</sup>Toyohashi University of Technology, Japan
- 10:20 – 10:45     **IT-3**  
                  **Interactions of Magnetic and Non-magnetic Micro-particles in a Dynamical Field**  
                  **C.-Y. Chen<sup>a</sup>, R.-C. Shiu<sup>a</sup>**  
                  <sup>a</sup>National Chiao Tung University, Taiwan

10:45 – 11:00 **Tea Break**

11:00 – 12:15 Invited Talks II

Chair: C.-Y. Chen, National Chiao Tung University, Taiwan

11:00 – 11:25 IT-4

**Magnetic Properties of Magnetite Nanoparticles**

**H. Mamiya<sup>a</sup>, H. Fukumoto<sup>b</sup>, J. Nishigaki<sup>b</sup>, M. Fukunaga<sup>b</sup>, I. Furukawa<sup>b</sup>,  
J. Cuya<sup>b</sup>, B. Jeyadevan<sup>b</sup>**

<sup>a</sup>National Institute for Materials Science, Japan

<sup>b</sup>The University of Shiga Prefecture, Japan

11:25 – 11:50 IT-5

**Cooling Device with Temperature-Sensitive Binary Magnetic Fluid**

**H. Yamaguchi<sup>a</sup>, Y. Iwamoto<sup>b</sup>**

<sup>a</sup>Doshisha University, Japan

<sup>b</sup>Nagoya Institute of Technology, Japan

11:50 – 12:15 IT-6

**Speaker Voice Coil Cooling using Magnetic Nanofluids**

**H. C. Weng<sup>a</sup>, A. Hsu<sup>a</sup>**

<sup>a</sup>Chung Yuan Christian University, Taiwan

12:15 – 13:30 **Lunch**

13:30 – 14:45 Invited Talks III

Chair: B. Jeyadevan, The University of Shiga Prefecture, Japan

13:30 – 13:55 IT-7

**Relationship between Processed Quantity and Shear Rate for Fluid in Precision Processing of Inner Surface of Circular Tube and Ring-like Part with Magnetic Compound Fluid**

**H. Yamamoto<sup>a</sup>, H. Nishida<sup>a</sup>**

<sup>a</sup>National Institute of Technology, Toyama College, Japan

13:55 – 14:20 IT-8

**Ultrasound-Motivated Magnetic Imaging of Tumors Targeted by Biofunctional Magnetic Nanoparticles**

**J.-J. Chieh<sup>a</sup>, K.-W. Huang<sup>b,c</sup>, C.-K. Yeh<sup>d</sup>, S. H. Liao<sup>a</sup>, C.-Y. Wu<sup>a</sup>, H.-C. Yang<sup>a</sup>,  
H.-E. Horng<sup>a</sup>**

<sup>a</sup>National Taiwan Normal University, Taiwan

<sup>b</sup>National Taiwan University Hospita, Taiwan

<sup>c</sup>National Taiwan University, Taiwan

<sup>d</sup>National Tsing Hua University, Taiwan

14:20 – 14:45 IT-9

**Cytotoxicity of Magnetic Fluid**

**Y. Mitamura<sup>a</sup>, K. Sekine<sup>b</sup>**

<sup>a</sup>Hokkaido University, Japan

<sup>b</sup>Tokushima University, Japan

14:45 – 15:00 **Tea Break**

15:00 – 16:15 Invited Talks IV

Chair: J.-J. Chieh, National Taiwan Normal University, Taiwan

15:00 – 15:25 IT-10

**Characteristics of Heat Transfer and Flow Structure of Turbulent Magnetic Fluid Flow by Applying Magnetic Field**

**M. Motozawa<sup>a</sup>, T. Tsukamoto<sup>a</sup>, M. Fukuta<sup>a</sup>**

<sup>a</sup>Shizuoka University, Japan

15:25 – 15:50 IT-11

**Magnetic Field Effect on Convective Flow of Nanofluids in a Differentially Heated Square Enclosure with Two-phase Mixture Model**

**C.-C. Liao<sup>a</sup>**

<sup>a</sup>Chung Yuan Christian University, Taiwan

15:50 – 16:15 IT-12

**Design and Fabrication of Three-dimensional Magnetic Nanomaterials for Rare Cell Isolation and Drug Delivery System**

**T. Fuchigami<sup>a</sup>, Y. Kitamoto<sup>b</sup>, S. X. Wang<sup>c</sup>**

<sup>a</sup>Nagoya Institute of Technology, Japan

<sup>b</sup>Tokyo Institute of Technology, Japan

<sup>c</sup>Stanford University, USA

16:15 – 16:30 **Tea Break**

16:30 – 17:45 Invited Talks V

Chair: H. Mamiya, National Institute for Materials Science, Japan

16:30 – 16:55 IT-13

**Viscous and Damping Properties of Magnetic Compound Fluids Containing Submicron Needle-like Particles**

**Y. Ido<sup>a</sup>, H. Nishida<sup>b</sup>, Y. Iwamoto<sup>a</sup>**

<sup>a</sup>Nagoya Institute of Technology, Japan

<sup>b</sup>National Institute of Technology, Toyama College, Japan

16:55 – 17:20 IT-14

**A Sensitive In-vitro Immunoassay Method based on Biofunctionalized Magnetic Nanoparticles and Ac Magneto-optical Faraday Effect**

**K.-L. Chen<sup>a</sup>, J.-M. Chen<sup>a</sup>, Y.-H. Lin<sup>a</sup>, C.-C. Jeng<sup>a</sup>, C.-H. Wu<sup>a</sup>**

<sup>a</sup>National Chung Hsing University, Taiwan

17:20 – 17:45 IT-15

**Preparation for Numerical Analysis of Transition Process on Magnetic Fluid Interface**

**Y. Mizuta<sup>a</sup>**

<sup>a</sup>Hokkaido University, Japan

17:45 – 18:00 **Closing Ceremony**

19:00 – 21:00 **Banquet**

@Otaru New Sanko, SAPPORO TV Tower

**Saturday, 10th of December, 2016**

9:00 – 17:00 **Concluding Remarks and Technical Tour**

@Hokkaido University