

# Japan–Taiwan International Conference on Magnetic Fluids 2018

## Final Program

November 21–22, 2018

Hiyoshi Campus, Keio University, Yokohama, Japan

### Wednesday, 21st of November, 2018

16:30 – 17:30 **Registration**

@Raiosha 1F, Symposium Space, Hiyoshi Campus, Keio University

18:00 – 20:00 **Welcome Reception**

@Faculty Lounge, Kyoseikan 2F, Hiyoshi Campus, Keio University

### Thursday, 22nd of November, 2018

8:15 – 8:45 **Registration**

@Raiosha 1F, Symposium Space, Hiyoshi Campus, Keio University

8:45 – 8:55 **Opening Ceremony**

8:55 – 10:10 **Invited Talks I**

Chair: Yasushi Ido (Nagoya Institute of Technology)

IT-1 Trajectory of a Non-magnetic Particle Transported by a Rotating Magnetic Particle  
W. Y. Lo, C. Y. Lu, C. R. Lin, C. Y. Chen (National Chiao Tung University)

IT-2 The Latest Technical Trend at in-Market Ferrofluid Applications  
Y. Hirota (Ferrotec Holdings Corporation)

IT-3 An Introduction to Magneto-Optical Faraday Immunoassay System  
K. L. Chen, J. M. Chen, Y. J. Lin, L. W. Chou, Y. H. Lin, C. H. Wu (National Chung Hsing University)

10:10 – 10:20 **Tea Break**

10:20 – 12:00 **Invited Talks II**

Chair: Huei Chu Weng (Chung Yuan Christian University)

IT-4 Generating DC and AC Electricity Using Water Droplets: Fundamentals and Experiments  
H. F. Huang, C. S. Huang, Z. Z. Huang (National Taiwan University)

IT-5 Water Electrolysis Enhancement by Magnetic Buoyancy Force  
Y. Iwamoto, Y. Ishii, Y. Ido (Nagoya Institute of Technology), B. Jeyadevan (The University of Shiga Prefecture), S. Kawasaki, S. Takagi (Nagoya Institute of Technology)

IT-6 Magnetic Ablation  
W. C. Wei, M.H. Chiang, S.H. Liao, Y. B. Liu (National Taiwan Normal University),

K. T. Peng (Chang-Gung University), J. J. Chieh (National Taiwan Normal University)

IT-7 Projection of Physical Quantities onto Largely-Deformed Interface of Magnetic Fluid

Y. Mizuta (Hokkaido University)

#### 12:00 – 12:50 Lunch

#### 12:50 – 14:30 Invited Talks III

Chair: Hiromichi Obara (Tokyo Metropolitan University)

IT-8 Cytotoxic Evaluation of Magnetic Fluid

K. Sekine (Tokushima University), Y. Mitamura (Hokkaido University)

IT-9 Flexible Structure of Magnetic Microbeads Flagella and Swimmers

Y. H. Li, C. Y. Yen (National Defense University)

IT-10 Application of Magnetic Fluid to Diesel Particulate Removal

T. Kuwahara (Nippon Institute of Technology)

IT-11 Application of the Two-Phase Model on Heat Transfer Transition of Convective Nanofluids Flow under a Uniform Magnetic Field

C. C. Liao (Chung Yuan Christian University)

#### 14:30 – 14:40 Tea Break

#### 14:40 – 16:20 Invited Talks IV

Chair: Chuan-Chieh Liao (Chung Yuan Christian University)

IT-12 Electrokinetics for Cell Therapy

H. Obara, T. Maejima, R. Sato, H. Iba (Tokyo Metropolitan University)

IT-13 Magnetic particle for immunoassay and imaging

S. H. Liao, Y. F. Tong, Y. H. Chen, C. Y. Wu, M. H. Tsai, C. M. Wang, Y. K. Su, H. E. Horng (National Taiwan Normal University)

IT-14 Potential Solution-based Technique for the Synthesis of Metallic Nanostructures

J. Balachandran, H. Kaneko (The University Shiga Prefecture), T. Matsumoto (Tohoku University), J. L. Cuya, K. Suzuki, H. Miyamura (The University Shiga Prefecture)

IT-15 Particle Effects on Magnetic Fluid Flow and Heat Transfer at the Microscale

H. C. Weng, G. R. Luo (Chung Yuan Christian University)

#### 16:20 – 17:20 Poster Session

P-1 Liquid Sloshing of Rotating and Oscillating Cylindrical Container

E. Yokose, T. Kaneyoshi, T. Sawada (Keio University)

P-2 Development of Medical Micro Swimming Device using Electrokinetics in Blood Vessel -Millimeter Scale Model Experiment-

H. Iba, H. Obara (Tokyo Metropolitan University)

P-3 Heat Transfer Characteristics of Temperature-Sensitive Magnetic Fluid on a Cylinder Heating Body Surface

K. Odai, H. Nakasumi, Y. Iwamoto, Y. Ido (Nagoya Institute of Technology)

P-4 Influence of an Applied Magnetic Field on Resistance Force of a Magneto-

- Rheological Fluid in a Cylinder  
K. Matsuzaka, Y. Fukuoka, T. Sawada (Keio University)
- P-5 Individual Cell Manipulation and Measurement using Alternating Current Electric Field for Cell Therapy  
R. Sato, H. Obara, T. Maejima (Tokyo Metropolitan University)
- P-6 Ultrasonic Wave Propagation through MR Fluid under AC Magnetic Field  
Y. Tanaka, R. Kanasashi, T. Sawada (Keio University)
- P-7 Fundamental Properties of Energy-Regenerative Damper using Particle Assemblage of Magnetic Elastomers  
S. Hotta, K. Obata (Nagoya Institute of Technology), A. Toyouchi (Nagoya Institute of Technology, KYB Corporation), Y. Iwamoto, Y. Ido (Nagoya Institute of Technology)
- P-8 Magnetic Nanoparticles for Biomedical Application Suggesting a Penetration of Blood-Brain Barrier  
T. Ide, K. Fujiwara, A. Oshima, K. Kanda, Y. Ito, Y. Sahashi, Y. Takahashi (Yokohama National University), Y. Ichianagi (Yokohama National University, Osaka University)
- P-9 Deterioration of Magnetic Fluid Seals under Liquid Contacting Conditions  
T. Yoshida, Y. Takahashi, I. Yamanaka, T. Sawada (Keio University)
- P-10 Investigation of Bubble Behavior in Magnetic Fluid and Influence by External Magnetic Field  
T. Tazawa, H. Yamaguchi (Doshisha University), H. Yamasaki (Osaka Prefecture University)
- P-11 Preparation of Co-Zn Ferrite Nanoparticles and in vitro Experiment for Hyperthermia Treatment  
A. Oshima, K. Fujiwara, T. Ide, K. Kanda, Y. Ito, Y. Sahashi, Y. Takahashi (Yokohama National University), Y. Ichianagi (Yokohama National University, Osaka University)

**17:20 – 17:30 Closing Ceremony**

**18:00 – 20:00 Banquet**

@Tatsukichi, 1-23-2 Hiyoshi-Honcho, Kohoku-ku, Yokohama

## **Organizing Committee**

Chair:

Prof. T. Sawada (Keio University, Japan)

Co-Chair:

Prof. Y. Ido (Nagoya Institute of Technology, Japan)

Prof. H.C. Weng (Chung Yuan Christian University, Taiwan)

Conference Secretary:

Dr. Y. Iwamoto (Nagoya Institute of Technology, Japan)