



# International Workshop HITS 2009

Frontiers of Biomeasurement and Bionanotechnology toward Biomedical Engineering

JSPS International Training Program (ITP), Eco-Bio Technology Symposium

February 5<sup>th</sup> and 6<sup>th</sup>, 2009 Suzukake Hall Tokyo Institute of Technology

## February 5<sup>th</sup> (Thu)

- 10:00-10:10 Opening:  
Dr. Hisakazu Mihara (Tokyo Institute of Technology)  
**【Biomeasurement Technology】** Chair: Hisakazu Mihara
- 10:10-10:30 Dr. Eun Kyu Lee (Hanyang University)  
“Cell-Based Imaging as a Tool for Evaluation of Apoptosis Kinetics and Nanoparticle Cytotoxicity”
- 10:30-10:50 Dr. Tony Cass (Imperial College London)  
“Odorant Binding Protein: A Versatile Sensing Molecule Revisited”
- 10:50-11:10 Dr. Toshihisa Ishikawa (Tokyo Institute of Technology)  
“Genetic Polymorphisms in Human ABC Transporters: Emerging New Technologies for Pharmacogenomics Research”  
**【Biomarker and Biomeasurement】** Chair: Jin-Goo Park
- 11:30-11:50 Dr. Ahmed Busnania (Northeastern University)  
“Nanoparticle-Based Multi-Biomarker Nano-Biosensor”
- 11:50-12:10 Dr. Yasuto Akiyama (Shizuoka Cancer Center Research Institute)  
“Single Cell-Based Characterization of Cancer-Specific Immunobiomarker Genes”
- 12:10-12:30 Dr. Jaebum Choo (Hanyang University)  
“Fast and Sensitive Immunoassay of Lung Cancer Markers using Bio-Functionalized Metal Nano Probes”
- 12:30-12:40 Free Discussion  
**【Bioimaging and Biosensing】** Chair: Eiry Kobatake
- 14:00-14:20 Dr. Makio Tokunaga (Tokyo Institute of Technology)  
“Single Molecule Imaging in Living Cells and Force Detection of Molecular Interactions”
- 14:20-14:40 Dr. Takashi Nagaoka (Shizuoka Cancer Center Research Institute)  
“Automated Melanoma Recognition using Hyperspectral Image Analysis”
- 14:40-15:00 Dr. Joshua B. Edel (Imperial College London)  
“Probing Single Molecules on the Nanoscale”
- 15:00-15:20 Dr. Bong Yong Yoo (Hanyang University)  
“Electrochemically Fabricated Ferromagnetic Nano-Gap Electrodes as Sensing Device”  
**【Protein Science and Biomeasurement】** Chair: Dany O’Hare
- 15:40-16:00 Dr. Tim Albrecht (Imperial College London)  
“Electrochemical Charge Transport on the Nanoscale”
- 16:00-16:20 Dr. Kohei Tsumoto (The University of Tokyo)  
“Arginine as a Versatile Reagent for Handling Proteins”
- 16:20-16:40 Dr. Seung Yong Hwang (Hanyang University)  
“Species Identification using DNA Microarray”
- 16:40-17:00 Dr. Akihiko Kondo (Kobe University)  
“Construction of a Novel Detection System for Protein-Protein Interaction using Yeast”
- 17:00-17:20 Free Discussion

## February 6<sup>th</sup> (Fri)

- 【Bionano-Fabrication Technology】** Chair: Tony Cass
- 10:00-10:20 Dr. Andrew de Mello (Imperial College London)  
“Droplets & Microfluidics: Novel Tools in Nanomaterial Synthesis”
- 10:20-10:40 Dr. Jin-Goo Park (Hanyang University)  
“Fabrication of Nano Si Tips and Their Application to Nano-Array Chips”
- 10:40-11:00 Dr. Jonathan Heddle (Tokyo Institute of Technology)  
“Engineering of Protein Rings and Associated Proteins for Use in Bionanotechnology and Therapeutics”
- 11:00-11:20 Dr. Makoto Nakamura (Toyama University)  
“Micro- to Macro-Scaled 3D Biofabrication by Inkjet 3D Bioprinter”  
**【Biomedical and Biophysical Engineering】** Chair: Eun Kyu Lee
- 11:40-12:00 Dr. Yong Woo Cho (Hanyang University)  
“pH-Sensitive Polymer Nanoparticles for Intracytoplasmic Drug Delivery”
- 12:00-12:20 Dr. Minoru Sakurai (Tokyo Institute of Technology)  
“Physicochemical Study on the Mechanism of Anhydrobiosis in the Sleeping Chironomid, *Polypedium vanderplanki*”
- 12:20-12:40 Dr. Dany O’Hare (Imperial College London)  
“Microfabricated Electrochemical Devices: New Sensors and New Applications”
- 12:40-13:00 Free Discussion
- 13:00-13:10 Closing:  
Dr. Hisakazu Mihara (Tokyo Institute of Technology), Dr. Eun Kyu Lee (Hanyang University)