

# Micro/Nano Fluidics and Bio-Medical Applications

## – Deans' Forum Lectureship –

This is a new, three-day intensive course taught by the leading scientists from the Deans' Forum member institutions. The course systematically combines the fundamentals of micro/nano fluidics with cutting-edge bio-medical applications.

**Prof. Takehiko Kitamori**  
(The University of Tokyo)



**Prof. Teruo Fujii**  
(The University of Tokyo)



**Prof. Klavs F. Jensen**  
(Massachusetts Institute of Technology)



**Prof. Amy E. Herr**  
(University of California, Berkeley)



**Prof. Luke P. Lee**  
(University of California, Berkeley)



**Dr. Robert C. Wootton**  
(ETH Zurich)



**Prof. Petra S. Dittrich**  
(ETH Zurich)



**Prof. Madoka Takai**  
(The University of Tokyo)



**Prof. Ryo Miyake**  
(The University of Tokyo)

### COURSE SYLLABUS:

#### Introduction/Overview

Micro/Nano Fluidics and Bio-Medical Application (Takehiko Kitamori, Teruo Fujii)

#### Basic Course

Fluid Flow, Reactions, and Cells in Microfluidic Systems (Klavs Jensen)

Analytical Chemistry (Amy Herr)

Nanoscale Biophotonics, BioMEMS, and Biointerfaces (Luke Lee)

Bio-System, Device Application (Robert Wootton)

Microfluidics, Nanofluidics (Petra Dittrich)

#### Applications

Chemical and Biological Microsystems - Advantages of Going Small (Klavs Jensen)

Next-Generation Analytical Tools (Amy Herr)

Bionanoscience for Innovative Global Healthcare Research and Technology (Luke Lee)

Rapid and Highly Sensitive Immunoassay Devices (Madoka Takai)

Microfluidic Platforms for Single Cell and Membrane Analysis (Petra Dittrich)

Microfluidic Systems for High-Throughput Experimentation (Robert Wootton)

Micromixers and the Applications (Ryo Miyake)

### DETAILS:

Dates & Time: July 31 (Thu), August 4 (Mon), August 5 (Tue) 10:30~18:20

Location: Engineering Building 5, Room 57

Credits: 2.0

Registration Period: May 29 – June 13, 2014

If you have any enquiries, please contact the Department of Bioengineering Office.

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