

# International Symposium Series on Mechanical Systems Innovation

Takeda Conference Hall, The University of Tokyo

## International Symposium on Biomedical Systems Innovation

December 8, 2004

9:30-9:45 **Opening**

*Kimihiko Hirao*  
(Dean, School of Engineering,  
The University of Tokyo, Japan)  
*Mamoru Mitsuishi*  
(Project Leader, The University of Tokyo, Japan)

### 1. Biomedical systems simulation

9:45-10:45 Simulation-based medicine: Predicting outcomes of medical interventions

*Charles A. Taylor* (Stanford University, U.S.A.)

10:45-11:15 Computational Simulation of blood flow and arterial wall interaction for cardiovascular diseases

*Marie Oshima* (The University of Tokyo, Japan)

11:15-11:45 Surgical simulation and navigation systems using virtual reality techniques

*Naoki Suzuki* (Jikei University, Japan)

11:45-13:00 **Lunch break**

### 2. Surgical and welfare robotic system

13:00-14:00 Image-guided Tele-Robotic Surgery

*Makoto Hashizume* (Kyushu University, Japan)

14:00-15:00 Surgical robotics as advanced hands of surgeon

*Takeyoshi Dohi* (The University of Tokyo, Japan)

15:00-15:20 **Coffee break**

15:20-15:50 Research Activity in Medical Robotics at KAIST

*Dong-Soo Kwon* (KAIST, Korea)

15:50-16:20 Computer-Integrated Surgical Systems

*Mamoru Mitsuishi* (The University of Tokyo, Japan)

16:20-17:20 New concepts and design of miniature robotic tools for endoluminal surgery

*Paolo Dario* (Scuola Superiore Sant'Anna, Italy)

18:00-20:00 **Reception at Forest Hongo Hotel**

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### 3. Noninvasive or minimally invasive medical therapy

9:30-10:30 Adaptive focusing for ultrasonic transcranial brain therapy

*Mathias Fink* (Universite' Paris VII, France)

10:30-11:30 Ultrasound-guided High Intensity Focused Ultrasound Treatment for Patients with Neoplastic Disease: Clinical Experiences in China and England

*Feng Wu* (Chongqing Medical University, China)

11:30-12:00 Micro Bubble Enhanced HIFU (High Intensity Focused Ultrasound) Therapy

*Yoichiro Matsumoto* (The University of Tokyo, Japan)

12:00-13:00 **Lunch break**

13:00-14:00 Ultrasound contrast imaging of the liver using microbubble agents –present and future–

*Fuminori Moriyasu* (Tokyo Medical University, Japan)

### 4. Nano and micro bioengineering

14:00-14:30 Micro/nano machining for bio-chips

*Masayuki Nakao* (The University of Tokyo, Japan)

14:30-15:00 Microfluidic Cell-culture Devices for Biomedical Applications

*Teruo Fujii* (The University of Tokyo, Japan)

15:00-15:20 **Coffee break**

15:20-16:20 Smart polymeric micelles as nanocarriers for gene and drug delivery

*Kazunori Kataoka*  
(The University of Tokyo, Japan)

16:20-16:50 Molecular Construction based on self-assembling of DNA

*Masao Washizu*  
(The University of Tokyo, Japan)

16:50-17:00 **Closing**

*Yoichiro Matsumoto*  
(The University of Tokyo, Japan)

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主催：東京大学21世紀COEプログラム「機械システム・イノベーション」

The 21st Century COE Program: Mechanical Systems Innovation, The University of Tokyo

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