

International Symposium Series on Mechanical Systems Innovation

Takeda Conference Hall, The University of Tokyo

The 2nd International Symposium on Biomedical Systems Innovation

「術」を極める。

機械とバイオのフュージョン

December 5, 2005

Opening

9:10-9:20 Kimihiko Hirao (Dean, School of Engineering, The University of Tokyo, Japan)

1. Non-invasive Therapeutic Systems

(Chair: Marie Oshima)

9:20-10:10 Impact of Basic Research on Commercial Clinical Lithotripsy
Michael R. Bailey (University of Washington, U.S.A.)

10:10-11:00 Application of Sonoporation as a New Drug Delivery System
Katsuro Tachibana (Fukuoka University, Japan)

11:00-11:40 Medical Application of Ultrasound with Micro-bubbles
Yoichiro Matsumoto (The University of Tokyo, Japan)

2. Medical Robotics (Chair: Takashi Ushida)

11:40-12:30 Biomedical Robotics Research in Nanyang Technological University, Singapore
Wei Tech Ang (Nanyang Technological University, Singapore)

12:30-14:00 Lunch Break

14:00-14:50 Robotic Projects at TIMC, Grenoble
Jocelyne Troccaz and Sandrine Voros (TIMC/IMAG Laboratory, France)

14:50-15:30 Development of a Sophisticated Bone Cutting System for the Artificial Joint Replacement
Mamoru Mitsuishi (The University of Tokyo, Japan)

15:30-15:50 Coffee Break

3. Innovation in Medical Systems (Chair: Yoshikazu Nakajima)

15:50-16:40 Micro and Nano Medical Robotics based on New Principle Mechatronics
Koji Ikuta (Nagoya University, Japan)

16:40-17:30 Non-Contact Impedance Sensing for Medical Application
Makoto Kaneko (Hiroshima University, Japan)

17:30-18:20 Innovation of Bioengineering
Kazuo Tanishita (Keio University, Japan)

December 6, 2005

4. Imaging and Simulation

(Chair: Yoichiro Matsumoto)

9:10-10:00 Ultrasonic Tissue-Type Imaging of Prostate Cancer
Jeffrey A. Ketterling

(Riverside Research Institute, U.S.A.)

10:00-10:40 Integration of Spine-surgery Procedures in 3-D Space
Yoshikazu Nakajima

(The University of Tokyo, Japan)

10:40-11:20 Recent Advancement in Numerical Modeling and Simulation of Cardiovascular Flow
Marie Oshima (The University of Tokyo, Japan)

11:20-12:00 Development of Heart Simulator at the University of Tokyo
Toshiaki Hisada and Hiroshi Watanabe

(The University of Tokyo, Japan)

12:00-12:40 Multi-scale Analysis on Micro Circulation
Shu Takagi (The University of Tokyo, Japan)

12:40-14:10 Lunch Break and Poster

5. Nano-Bioengineering and Tissue Engineering

(Chair: Mamoru Mitsuishi)

14:10-14:50 Imaging of Intracellular Signal Transduction Evoked by Mechanical Stimulation
Takashi Ushida (The University of Tokyo, Japan)

14:50-15:40 Biomimetic Surface on Artificial Hip Joint for Obtaining Excellent Lubrication
Kazuhiko Ishihara (The University of Tokyo, Japan)

15:40-16:30 Tissue Engineering: Optimization through Crossdisciplinary Research and Development
Shuichi Mizuno

(Harvard Medical School, U.S.A.)

16:30-16:40 Closing
Mamoru Mitsuishi

URL: <http://www.mechasys.jp/>



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

URL: <http://www.mechasys.jp/> E-mail: office-coe@thtlab.t.u-tokyo.ac.jp Tel.: +81-3-5841-7437