

International Symposium on Cell Biomechanics & Tissue Engineering

The Japan Society of Mechanical Engineers

Organized by Prof. Tetsuya Tateishi, University of Tokyo

28. September , 2002 at Yayoi Hall , Hongo, University of Tokyo

9: 30 – 9:40 **Opening Remark**, T. Tateishi, University of Tokyo

Cell Biomechanics

9:40 – 10:00 Dancing of auditory sensory cells, Hiroshi Wada, Tohoku University (keynote lecture)

10:00 – 10:15 Functional repolarization of reconstructed hepatic organoid -Pumping function of bile canaliculi -, R. Sudo, Department of System Design Engineering, Keio University

10:15 – 10:30 A two-compartment cell culture system using Caco-2 and Hep G2 cells for mimicking absorption and biotransformation processes in humans: Application to the analysis of benzo[a]pyrene toxicity, S.-H. Choi ,Institute of Industrial Science, University of Tokyo

Biomaterials for Soft Tissue

10:30 – 10:45 Surface tailoring of biomaterials for tissue engineering with plasma and ion beam technology, G. Xu, Ion Engineering Research Institute corporation

10:45 – 11:00 Hybrid scaffolds for tissue engineering, Guoping Chen, TERC, AIST

Coffee Break

Biomaterials for Hard Tissue

11:15 – 11:35 Novel bone generating implant materials, Dominic Walsh, University of

Bristol, UK (keynote lecture)

11:35 – 11:50 Porous materials of hydroxyapatite and biopolymers nanocomposites for tissue engineering, T. Ikoma, Biomaterials Center, NIMS

11:50 – 12:05 Influence of concentration of starting materials on fibrillogenesis of HAp/Col self-organized nanocomposites, M. Kikuchi, Biomaterials Center, NIMS

Lunchion Seminar

12:30 – 13:00 Recent development of tissue engineering in UK, J. Watson, Smith and Nephew

Special Lecture

13:10 – 13:40 Tissue engineering using mesenchymal stem cells and bioceramics, H. Ohgushi, TERC , AIST

13:40 – 14:10 Clinical application of tissue-engineered cardiovascular structure, S. Shinoka, Tokyo Women's Medical University

Bone Tissue Engineering

14:20 – 14:40 Enhancement of bone regeneration with biomaterials, K. Takakuda, Tokyo Medical and Dental University (keynote lecture)

14:40 – 14:55 Bone tissue engineering using marrow cells, T. Uemura , TERC , AIST

14:55 – 15:10 Novel culture techniques for bone tissue engineering, Yichao Wang, Fudan Univ., China

15:10 – 15:25 Cultured bone transplantation in combination with gene transfer techniques, H. Kojima , TERC , AIST

15:25 – 15:40 Collagen-phosphoryn sponge as a scaffold for bone tissue engineering Takashi Saito, Health Sciences University of Hokkaido

15:40 – 15:55 Bone healing near the implanted mandibular bone in a pig model under the dynamic condition, Myung Chul Chang, Kunsan National University, Korea

Coffee Break

Cartilage Tissue Engineering

16:10 – 16:25 Physical stimulation for cartilage regeneration, T. Ushida, University of Tokyo

16:25 – 16:40 Encapsulation and culture of chondrocytes in collagen-glycosaminoglycan composite matrices, T. Taguchi, Biomaterials Center, NIMS

Soft Tissue Engineering

16:40 – 17:00 Construction of fibrillar matrix for the culture of multiple renal glomerular cells, PI-Chao Wang, Institute of Applied Biochemistry, Univ. Tsukuba (keynote lecture)

17:00 – 17:15 Rapid formation model of tissue-engineered vascular graft, K. Furukawa, University of Tokyo

17:15 – 17:30 Induction of in vitro maturation of fetal hepatocytes using 3D PLLA scaffolds for liver tissue engineering, J. Jinlan, Institute of Industrial Science, University of Tokyo, Institute of Biological Engineering, Jilin University

17:30 – 17:45 Function manipulation of hepatocyte for tissue engineering, Dawei. Yang, TERC, AIST

17:45 **Closing Remark**, T. Ushida, University of Tokyo