

6th Annual Symposium on Nanobiotechnology

Kyoto Cell-Material Integration

8th November (Thu)

9:00-9:10: Opening Remarks: **Norio Nakatsuji** (*Kyoto University*)

Session 1: Biomaterials Sciences

Chairperson: **Jeon-Soo Shin** (*Yonsei University*)

9:10-9:35 **May Griffith** (*Linköping University*)

Biomimetic Materials Enabled Regeneration from Bench to Bedside

9:35-10:00 **Masayuki Endo** (*Kyoto University*)

DNA Molecular Technology for Imaging and Biological Applications

10:00-10:25 **Takanori Ichiki** (*University of Tokyo*)

Characterization of Nanoparticles Using Biodevice Technology

10:25-10:45 *Coffee Break*

Chairperson: **Dan Ohtan Wang** (*Kyoto University*)

10:45-11:10 **Yasuo Mori** (*Kyoto University*)

Redox physiology of TRP channels

11:10-11:35 **Ali Bouamrani** (*CEA-LETI*)

Nano-interface technologies for biomarker research

11:35-12:00 **Jinwoo Cheon** (*Yonsei University*)

Magnetic nanoparticles as Probes and Actuators for Biomedical Sciences

12:00-13:10 *Lunch*

Session 2: Materials Biology

Chairperson: **Masayuki Endo** (*Kyoto University*)

13:10-13:35 **Kanjiro Miyata** (*University of Tokyo*)

Fine-tuning of Polycationic Nanomaterials for Enhanced Nucleic

- Acid Delivery
- 13:35-14:00 **Ernst Wagner** (*LMU/Ludwig-Maximilians-Universität München*)
Sequence-defined Oligomer as Bioresponsive Shuttles for
Intracellular Nucleic Acid and Protein Transduction
- Chairperson:** **Takanori Ichiki** (*University of Tokyo*)
- 14:00-14:25 **Jeon-Soo Shin** (*Yonsei University*)
Application of Magnetic Switch for the Control of Cell Signaling in
in-vitro and in-vivo systems
- 14:25-14:50 **Dan Ohtan Wang** (*Kyoto University*)
Imaging Spatiotemporal RNA Regulation with Photochemical
Probes
- 14:50-15:15 **Hiroshi Imahori** (*Kyoto University*)
Mesoscopic Regulation of Cellular Functions by Light
- 15:15-16:15 *Poster Session & Coffee Break*

Session 3: Nano-Meso Therapeutics

- Chairperson:** **Vasilis Ntziachristos** (*TUM/Technical University of Munich*)
- 16:15-16:40 **Agneta Richter-Dahlfors** (*Karolinska Institute*)
Nanomedicine for a View of the Integrated Pathophysiology of
Infection
- 16:40-17:05 **François Berger** (*CEA-LETI*)
A theranostic in situ multimodal nanomedicine approach for brain
pathologies.
- 17:05-17:30 **Tim Liedl** (*LMU/Ludwig-Maximilians-Universität München*)
DNA Origami for Biomedical Applications
- 17:30-17:55 **Klas Udekwu** (*Karolinska Institute*)
Bacterial Physiology and its Pharmacodynamic Relevance in
Continuous and Batch Cultures
- 18:00- *Banquet*

9th November (Fri)

Session 4: Mesoscopic Functions of Porous Solids

Chairperson: ***Ken-ichiro Kamei** (Kyoto University)*

- 9:00-9:25 **Keiji Itaka** (*University of Tokyo*)
In vivo mRNA Introduction into CNS using non-viral polyplex nanomicelle
- 9:25-9:50 **Kensuke Osada** (*University of Tokyo*)
Control of DNA Packaging and Gene Expression Efficiency for Gene Delivery

Session 5: Stem Cells Meet Nanobiotechnology

Chairperson: ***May Griffith** (Linköping University)*

- 9:50-10:10 **Kouichi Hasegawa** (*Kyoto University*)
Technical Innovation of Human Pluripotent Stem Cell Biology Towards Regenerative Medicine
- 10:10-10:30 **Ken-ichiro Kamei** (*Kyoto University*)
Gelatin nanofibrous scaffold enables expanding human pluripotent stem cells for long-term period
- 10:30-10:50 *Coffee Break*

Session 6: Nano-Meso Imaging

Chairperson: ***Kanjiro Miyata** (University of Tokyo)*

- 10:50-11:15 **Donghyun Kim** (*Yonsei University*)
Nanoplasmonic Biosensing and Imaging for Molecular Detection by Surface Enhancement
- 11:15-11:40 **Vasilis Ntziachristos** (*TUM/Technical University of Munich*)
Multispectral Optoacoustic Tomography (MSOT): A Powerful New Imaging Tool for the nano-sciences
- 11:40-12:05 **Itaru Hamachi** (*Kyoto University*)
Self-assembled Nanoprobes for Selective Protein labeling and Imaging

12:05-12:10 Concluding Remarks: **Ken-ichiro Kamei** (*Kyoto University*)

12:10-12:15 *Group Picture*

12:15- *Lunch & Excursion*