

# Leading Open Innovation, From the iCeMS to Industries

THURSDAY, DECEMBER 5, 2013 12:15 - 13:30

## Stem Cell Open Innovation in Japan: Industry and Academia Team Up for Large-Scale Production and Quality Control of Stem Cells

### **Large Scale Production of Stem Cells**

Prof. Norio Nakatsuji

### **iPS Derived Model Cells for Drug Discoveries**

Chikafumi Yokoyama, PhD  
ReproCELL, Inc.

### **Quality Control – PrimerArray® Analysis Tool**

Masanari Kitagawa, PhD  
TAKARA BIO INC.

### **Quality Control – Automated Epigenetics System**

Masaaki Takahashi, PhD  
Genetein Co., Ltd.

### **Quality Control – Glycan Purification and Labeling Kit**

Masao Fukushima, PhD  
Sumitomo Bakelite Co., Ltd.



### **Norio Nakatsuji, DSc**

Founding Director of the Institute  
for Integrated Cell-Material  
Sciences (iCeMS), Kyoto University

Application of human pluripotent stem cell (hPSC) lines in regenerative medicine and drug discovery requires large-scale culture and production system. However, there are several problems to be resolved by new technology development, including reliable low-cost defined culture media, large-scale culture and production methods of hPSCs. For example, scaling up of conventional adherent culture is limited by the attachment surface area and requirement of adhesion molecules, which are difficult to be both of high quality and low cost. Suspension culture of hPSCs has potential scaling up ability because of non-requirement of the attachment surface or adhesion molecules. Furthermore, we need three-dimensional (3D) culture systems for larger-scale production of hPSCs. So far, we have made progresses in developing new defined lower cost media by screening of chemical library to find out small chemical compounds that support hPSC growth. We have also developed a novel 3D sphere culture system that can solve the problems of reported suspension culture methods and dynamic stirring system, and thus it is optimal for large-scale production of hPSCs.

## Clinical Application

FRIDAY, DECEMBER 6, 2013 11:30 -

### **Stem Cell Therapy for Parkinson's Disease**

**SPEAKER Prof. Jun Takahashi, M.D., Ph.D.**

Center for iPS Cell Research and Application (CiRA), Kyoto University

## Stem Cell Biology

FRIDAY, DECEMBER 6, 2013 3:00 -

### **Mechanism and Reconstitution in vitro of Mammalian Germ Cell Development**

**SPEAKER Prof. Mitinori Saitou, M.D., Ph.D.**

iCeMS

*Exhibition Runs December 4 - 6*

**EXHIBITORS** iCeMS, Nissan Chemical Industries, Ltd.

## **Poster Forum**

### Bio Materials

**Gelatin nanofibrous scaffold to maintain human ES/iPS cells in a feeder-free culture condition for long-term period**

**Ken-ichiro Kamei, PhD**

iCeMS

### Stem Cell Biology

**Development of FGF/TGF $\beta$ -independent human ES/iPS cell culture system with chemical compounds**

**Kouichi Hasegawa, PhD**

iCeMS

### Biomedical Ethics

**Developing an easy-to-understand booklet for the general public to discuss ethical issues in stem cell research**

**Keiko Sato, PhD**

Graduate School of Medicine, Kyoto University



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