

# **JSPS France Japan Joint Forum 2024**

## **Engineering *in vitro* Human Physiology**

### **-Tissues, Organoids and Organs-on-Chip for Clinical Applications- Program**

#### **Monday, November 18, 2024**

8:30-9:00 Reception & Welcome Coffee

#### **9:00-9:40 Opening remarks**

-Bernold HASENKNOPF, Senior Advisor for European Commitment – President’s Office, Sorbonne University

-Tetsuya MIZUMOTO, Executive Director of Japan Society for the Promotion of Science (JSPS)

-Yoshio ANDO, Deputy Chief of Mission, Minister, Embassy of Japan in France

#### **Introductory speeches**

-Guillaume PERRY, Associate Professor, Sorbonne University

-Masaki NISHIKAWA, Associate Professor, University of Tokyo

#### **9:40-11:00 Session 1: iPSC-derived models 1**

Chairperson: Masaki NISHIKAWA, University of Tokyo

9:40-10:20 Mee-Hae KIM, Osaka University

Development of bioprocessing strategies for human induced pluripotent stem cells based on Waddington’s epigenetic landscape

10:20-11:00 Pierre JOANNE, Sorbonne University

PSC-derived cardiomyocytes based spheroids to study cardiac physiopathology of genetic-driven cardiomyopathies

11:00-11:20 Break

#### **11:20-12:40 Session 2: Vessels**

Chairpersons: Bruno LE PIOUFLE, Ecole Normale Supérieure Paris-Saclay and Jean-Charles

DUCLOS VALLEE, Paris-Saclay University

11:20-12:00 Rica TANAKA, Juntendo University

Establishment of simple, safe and effective autologous vascular/ tissue regenerative therapy

12:00-12:40 Mathieu HAUTEFEUILLE, Sorbonne University

Strategies of microvessel engineering for vascularized 3D culture platforms

#### **12:40-14:40 Poster Session, Lunch, and Photo**

### 14:40-16:00 **Session 3: Microphysiological devices 1**

Chairperson: Hiroshi KIMURA, Tokai University

14:40-15:20 Michiya MATSUSAKI, Osaka University

Cooperative tissue engineering by self-growing fibers

15:20-16:00 Carole AIME, CNRS-Ecole Normale Supérieure Paris

Impact of collagen and the extracellular matrix on cancer and therapeutic resistance

16:00-16:20 Break

### 16:20-17:40 **Session 4: iPSC-derived models 2**

Chairperson: Onnik AGBULUT, Sorbonne University

16:20-17:00 Olivier GOUREAU, Institut de la Vision, Sorbonne University, INSERM, CNRS, Paris

iPS cell-derived retinal organoids: new insights into human development and disease

17:00-17:40 Masaki NISHIKAWA, the University of Tokyo

Development of expansion culture techniques for renal stromal progenitor cells and their integration into kidney-on-a-chip technologies

### 17:40-18:00 **Closing of the day 1**

-Guillaume PERRY, Associate Professor, Sorbonne University

-Masaki NISHIKAWA, Associate Professor, University of Tokyo

## ***Tuesday, November 19, 2024***

8:30-9:00 Reception & Welcome Coffee

### 9:00-10:20 **Session 5: Neurons**

Chairperson: Michiya MATSUSAKI, Osaka University

9:00-9:40 Yusuke HIRABAYASHI, University of Tokyo

Unveiling mitochondrial ultrastructure in vivo with deep learning techniques

9:40-10:20 Ayako YAMADA, CNRS, Ecole Normale Supérieure-PSL

Micro/nano-engineered platforms for modeling, electrophysiology, and vascularization of neural tissues

10:20-10:40 Break

### 10:40-12:00 **Session 6: Microphysiological devices 2**

Chairperson: Wenjin XIAO, Sorbonne University

10:40-11:20 Hiroshi KIMURA, Tokai University

User-friendly microphysiological systems based on microfluidics for drug development

11:20-12:00 Alan RAJENDRAN, Paris-Saclay University

On-chip differentiation of human hepatic cords

### 12:00-14:00 **Poster Session and Lunch**

**14:00-15:00 Program presentations by French and Japanese agencies**

Chairperson: Toshiyuki TAKAGI, JSPS Strasbourg Office

- Edouard BESSERVE, Centre National de la Recherche Scientifique (CNRS)
- Almut KELBER, Human Frontier Science Program Organization (HFSP)
- Tetsuya MIZUMOTO, Japan Society for the Promotion of Science (JSPS)
- Hirotaka YAMADA, Japan Science and Technology Agency (JST)

15:00-15:20 Break

**15:20-16:20 Round table: Translational advances in engineered tissues, organoids and organs-on-chip**

Chairpersons: Guillaume PERRY, Sorbonne University and Masaki NISHIKAWA, University of Tokyo

Panelists: -Rica TANAKA, Juntendo University

- Mee-Hae KIM, Osaka University
- Athanasia SOTIROPOULOS, FC3R
- Maxence GAILLARD, University of Oslo

**16:20-16:40 Concluding remarks**

- Masaki NISHIKAWA, Associate Professor, University of Tokyo
- Sonia- Athina KARABINA, Vice-Dean for International studies, Sorbonne University
- Guillaume PERRY, Associate Professor, Sorbonne University
- Toshiyuki TAKAGI, Director, JSPS Strasbourg Office