OS11: Microfluidics and Microphysiological Modeling

November 19, 2024
CON-1

OS11-1
9:00-9:45
A Taperd Micro-vessel for Modeling Disease Response *(Invited)*
Yun-Jen Wu (National Cheng Kung University, Taiwan), Kazuki Sone, Kenichi Funamoto (Tohoku University, Japan), William Polacheck (The University of North Carolina at Chapel Hill, USA), Ting-Yuan Tu (National Cheng Kung University, Taiwan)

OS11-2
9:45-10:00
3D Human Blood-Brain Barrier in Brain Diseases on a Chip
Sakura Mama, Mai Inagaki (Tokushima University, Japan), Hideaki Nishihara, Kinya Matsuo (Yamaguchi University, Japan), Ayaka Hashimoto (Tokushima University, Japan), Kenichi Funamoto (Tohoku University, Japan), Masanori Tachikawa (Tokushima University, Japan)

OS11-3
10:00-10:15
Development of Perfusable Vasculature Model in 3D Muscle Tissue
Inu Kim, Jaesng Kim, Jessie S. Jeon (KAIST, Korea)

OS11-4
10:15-10:30
Evaluation of Reactive Oxygen Species in Microvascular Network during Reoxygenation by Using Microfluidic Devices
Shohei Yanagita, Kenichi Funamoto (Tohoku University, Japan)

OS11-5
10:40-10:55
Development of a Lung-vascular Co-culture Model as an Antiviral Drug Screening Platform under Different Oxygen Concentrations
Jinho Kwon, Doyeon Kim, Inu Kim, Hyeono Nam, Jessie S. Jeon (KAIST, Korea)

OS11-6
10:55-11:10
Development of Four-Chamber Microfluidic Device for Generating Different Oxygen Conditions
Naoto Kawahara, Shohei Yanagita, Satoshi Aratake, Satomi Hirose (Tohoku University, Japan), Nasser Ghazi, Jean-Paul Rieu (Université Lyon 1, France), Kenichi Funamoto (Tohoku University, Japan)

OS11-7
11:10-11:25
Analysis of the Effect of Different Boundary Conditions on an Elastic Model of the Arterial System Considering the Rheology of Human Blood
Aimee Torres Rojas, Diana Yáñez Guarneros, Eugenia Corvera Poiré (National Autonomous University of Mexico, Mexico)

OS11-8
11:25-11:40
Microorganisms Co-encapsulation within Microfluidic Gel Beads and Their Analysis Using Flow Cytometry to Discover Antibiotic-Producing Strains
Abraham Ochoa, Paulina G. De la Luz-Ángeles, Yesica Rodríguez-Hernández, Joaquín H. Lara-Baños, Luis F. Olguin (National Autonomous University of Mexico, Mexico)

OS11-9
13:10-13:25
Numerical Simulation of Microcapsules Filled with Ferrofluid under a Uniform Magnetic Field
Rikiya Takeuchi, Toshihiro Omori, Takuji Ishikawa (Tohoku University, Japan)

OS11-10
13:25-13:40
Development of a Biomechanical Erythrocyte Model that Reflects the Membrane Microstructure
Stephanie Nix (Iwate Prefectural University, Japan)

OS11-11 **A Numerical Simulation of a Dense Suspension of Spermatozoa**
13:40-13:55 Renji Iwasawa, Toshihiro Omori, Takuji Ishikawa (Tohoku University, Japan)

OS11-12 **Evaluation of Chaotic Structures as Passive Micromixers**
13:55-14:10 Abraham Ochoa, Luis F. Olguín, Eugenia Corvera Poiré (National Autonomous University of Mexico, Mexico)