OS8: Advanced Physical Stimuli and Biological Responses

October 29, 2021
ROOM4

9:45-9:50 Opening

OS8-1
9:50-10:20 **Kinetics and Hydrogen-bond States of Water Molecules in Protein Solutions and Biomaterials** *(Invited)*
Ryo Shirakashi (The University of Tokyo, Japan)

OS8-2
10:20-10:35 **Relationship Between Dielectric and Infrared Spectra of Water: Hydrogen Bond Strength and Rotational Relaxation Time in Saccharide Aqueous Solutions**
Junkai Zhang (The University of Tokyo, Japan), Hiroaki Matsuura (The University of Tokyo / Japan Society for the Promotion of Science, Japan), Ryo Shirakashi (The University of Tokyo, Japan)

OS8-3
10:35-10:50 **Liposomal Drug Carriers through an Extended Skin**
Jiawei Huang, Kenji Kikuchi, Keiko Numayama-Tsuruta, Takuji Ishikawa (Tohoku University, Japan)

OS8-4
11:10-11:40 **Surface Acoustic Wave Microfluidic Platform for Cell Mechanical Measurement** *(Invited)*
Yanqi Wu, Peter VS Lee, Alastair Stewart (University of Melbourne, Australia)

OS8-5
11:40-12:10 **A Microfluidic Particle Analyzer Device Based on Dual-Frequency Impedance Spectroscopy** *(Invited)*
Ting-Wei Wu, Chia-Hong Gao, Chih-Ting Lin (National Taiwan University, Taiwan)

OS8-6
12:10-12:25 **Detection of Filopodia to Identify Leader Cells in Migration by Computer Vision**
Baasansuren Otgon (Hokkaido University, Japan), Ganbat Danaa (Mongolian University of Science and Technology, Mongolia), Toshiro Ohashi (Hokkaido University, Japan)

OS8-7
12:25-12:40 **Sustainable Particle Capture Ability on a Fresh-water Sponge**
Kei Kawashima, Kenji Kikuchi, Takuji Ishikawa (Tohoku University, Japan)

OS8-8
13:30-14:00 **Heterogeneous Integration of Microfluidic Chips with Solid-State IC and Optic Fiber Components for Flow and Viscosity Measurement** *(Invited)*
Jun-Jei Wang, Po-Yau Ju, Che-Hsin Lin (National Sun Yat-sen University, Taiwan)

OS8-9
14:00-14:30 **Label-Free Visualization of Intracellular Temperature by Using Water Raman Band** *(Invited)*
Shinji Kajimoto (Tohoku University / JST, Japan), Takakazu Nakabayashi (Tohoku University, Japan)

OS8-10 **Polarity Effects of Plasma-Induced Stimuli on Cell Viability**
14:30-14:45 Airi Nakayama, Honoka Taguchi, Chia-Hsing Chang, Tomoki Nakajima, Siwei Liu, Takehiko Sato (Tohoku University, Japan)

OS8-11 **Implantable Pressure Sensor Produced in Soft PDMS Capsule for Urinary**
14:45-15:00 **Tract Obstruction Detection**
Yong-Jun Lin, Che-Hsin Lin (National Sun Yat-sen University, Taiwan), Yung-Shun Juan (Kaohsiung Medical University, Taiwan)

OS8-12 **NADPH Oxidase Regulates the Reactive Oxygen Species Response of**
15:20-15:50 **Macrophage to Substrates Rigidity** *(Invited)*
Yung-Chu Chuang, Hsaio-Ming Chang (National Tsing Hua University, Taiwan), Chia-Yang Li (Kaohsiung Medical University, Taiwan), Yujia Cui (National Tsing Hua University, Taiwan), Cheng-Lung Lee (Taiwan Police College, Taiwan), Chi-Shuo Chen (National Tsing Hua University, Taiwan)

OS8-13 **A 3D-Printed Bioreactor Combining Direct Perfusion and PEMF**
15:50-16:20 **Stimulation for Investigating the Biological Responses of Bone Tissue Models to Controlled Physical Stimuli** *(Invited)*
Beatrice Masante, Stefano Gabetti (Politecnico di Torino, Italy), Andrea Cochis (University of Piemonte Orientale, Italy), Giovanni Putame, Alessandro Sanginario, Elisa Fiume, Francesco Baino, Enrica Verné (Politecnico di Torino, Italy), Lia Rimondini (University of Piemonte Orientale, Italy), Cristina Bignardi, Diana Massai (Politecnico di Torino, Italy)

OS8-14 **Endothelial Primary Cilia Remodeling in Response to Cyclic Substrate**
16:20-16:35 **Stretching**
Tien-Dung Do, Toshiro Ohashi (Hokkaido University, Japan)

OS8-15 **Atmospheric-pressure Plasma Discharge Current Classification with Deep**
16:35-16:50 **Convolutional Neural Networks**
Jerry Chang, Shih-Sen Huang, Po-Han Niu, Chin-Wen Chen, Yun-Chien Cheng (National Yang Ming Chiao Tung University, Taiwan)

OS8-16 **Atmospheric-pressure Plasma Effects on Cancer Cells and Impedance**
17:10-17:40 **Matching Circuit to Improve Plasma Power Conversion Efficiency** *(Invited)*
Po Han Niu, Yi-Jing Cheng, Yun-Chien Cheng (National Yang Ming Chiao Tung University, Taiwan)

17:40-17:50 Meeting for Award/Award Ceremony/Closing