

OS8: Advanced Physical Stimuli and Biological Responses: Promotion of Collaborative Research

November 10, 2025

EX-2

- 13:30-13:35 **Opening**
YunChien Cheng and Takehiko Sato
- OS8-1 **Develop a Microfluidic Device for Clinical Applications** *(Invited)*
13:35-14:05 Bor-Ran Li (National Yang Ming Chiao Tung University, Taiwan)
- OS8-2 **Analysis of Protein Mobility in Living Cells by FRAP** *(Invited)*
14:05-14:35 Ken-ichi Yano (Kumamoto University, Japan)
- OS8-3 **Optimal Plasma Jet Treatment for PMMA Microfluidic Bonding with Thermal Resistance**
14:35-14:50 Shen Hui Lai, Chia-Hung Dylan Tsai (National Yang Ming Chiao Tung University, Taiwan)
- OS8-4 **Experimental Study on the Response of Physical Stimuli to Emulsion Generation on a Coaxial Microfluidic Device**
14:50-15:05 Chieh-Ning Chu, Chia-Hung Dylan Tsai (National Yang Ming Chiao Tung University, Taiwan)
- 15:05-15:15 BREAK
- OS8-5 **Intervention in Fibrotic Tissues and Senescent Cells via Physical Stimuli: Development of Novel Therapeutic Techniques Using Thermal and Electrical Stimulation** *(Invited)*
15:15-15:45 Ippei Yagi (Tokyo Metropolitan University, Japan)
- OS8-6 **Microbial Metabolic Alternations by Gas-phase Bioreactions** *(Invited)*
15:45-16:15 Yan-Yu Chen (National Chung Hsing University, Taiwan / Nagoya University, Japan), Katsutoshi Hori (Nagoya University, Japan)
- OS8-7 **Mechanical Characterization of Microstructured Femoral Implants Under Compression**
16:15-16:30 Liang-Ting Chen, Kai-Ming Chan, You-Wei Chang, Wen-Yea Jang (National Yang Ming Chiao Tung University, Taiwan)
- OS8-8 **Combining Physics-informed Neural Network with Skeletonized Images for Streamer Propagation Prediction**
16:30-16:45 Tung-Sheng Wu (National Yang Ming Chiao Tung University, Taiwan), Siwei Liu (Tohoku University, Japan), Chun-Sung Jao (National Institutes of Applied Research, Taiwan), Yun-Chien Cheng (National Yang Ming Chiao Tung University, Taiwan)
- 16:45-17:00 BREAK

- OS8-9
17:00-17:30 **Changes Induced by Atmospheric Plasma Irradiation in the Response of Red Blood Cells to Hypotonic Stress** (*Invited*)
Tetsuya Yano, Koki Kudo (Hirosaki University, Japan), Yasuyuki Shiraishi (Tohoku University, Japan)
- OS8-10
17:30-18:00 **Multimodal Inverse Modeling Based on Electrohydrodynamics for Interpreting Cell Dielectric Properties** (*Invited*)
Cher J. S. Liu, Yi-Lung Tsai, Hsiang-Yu Wang (National Tsing Hua University, Taiwan)
- OS8-11
18:00-18:15 **Distance-programmable Coaxial Capillary Device for Versatile Microfluidic Applications**
Shih-Chi Tang, Chia-Hung Dylan Tsai (National Yang Ming Chiao Tung University, Taiwan)
- OS8-12
18:15-18:30 **Electrical Characteristics of Water High-speed Nanodroplet Impacts**
Jiun-Shian Lee, Takehiko Sato (Tohoku University, Japan), Yun-Chien Cheng (National Yang Ming Chiao Tung University, Taiwan), Toshiyuki Sugimoto (Yamagata University, Japan), Tomoki Nakajima, Siwei Liu (Tohoku University, Japan)

November 11, 2025

EX-2

- OS8-13
9:00-9:30 **Study on Microbial State Changes Caused by PEF Application** (*Invited*)
Takanori Tanino (Gunma University, Japan)
- OS8-14
9:30-10:00 **Atmospheric-Pressure Plasma Jet for Transdermal Drug Delivery and Diamond Surface Function Alization** (*Invited*)
Ann Sung, Chao-Yu Chen, Hao-Hsiang Weng, Jin-Hao Jhang, Wei-Yen Woon, Yun-Chien Cheng (National Yang Ming Chiao Tung University, Taiwan)
- OS8-15
10:00-10:30 **Exploring the Characteristics and Biomedical Applications of Charged Cavitation** (*Invited*)
Siwei Liu, Takehiko Sato (Tohoku University, Japan), Outi Supponen (ETH Zurich, Switzerland), Mohamed Farhat (EPFL, Switzerland), Tomoki Nakajima (Tohoku University, Japan)
- 10:30-10:45 **Award Ceremony & Closing**
Kosuke Tachibana and Hsiang-Yu Wang