

Special Lecture

Organizer: Institute of Fluid Science, Tohoku University

Sponsor: Tohoku Branch of the Japan Society of Mechanical Engineers, Tohoku Branch of the Institute of Electrostatics Japan

Date and time: February 16, 2024 (Fri.) 11:00 ~ 12:00

Venue: Meeting Room (2F, IFS bldg. 1) and Online (Google Meet) (Hybrid)

<https://meet.google.com/xnc-vhkr-qjr>

Lecturer: Yun-Chien Cheng (Professor, Department of Mechanical Engineering, National Yang Ming Chiao Tung University, Taiwan (Visiting Professor, Institute of Fluid Science, Tohoku University, Japan))

Title: Atmospheric-Pressure Plasma Effects on Cancer Cells and Attempts of Improving Plasma Stability

Abstract: This study finds out that the plasma can selectively kill cancer cells and the benign cells remain its viability. To investigate what is the plasma factor that inhibits cancer cells, we investigated the effects of plasma-generated short-lived species, long-lived species, and electric fields on skin melanoma and basal cell carcinoma cells and normal cells and found that the short-lived species do make selective inhibition to the benign and malignant cells. We also constructed an impedance matching circuit for a partial-discharge calibrated (PDC) atmospheric-pressure plane-to-plane DBD equivalent circuit.

*This special lecture is organized as a part of the activities of the IFS visiting professor and the collaborative research.

Contact:

Takehiko Sato

Professor

Institute of Fluid Science

Tohoku University

Tel & Fax: 022-217-5320

E-mail: takehiko.sato.d7@tohoku.ac.jp