Furukawa - Suzuki Group Seminar

Date

June 26th, 2023
10:30–11:30

Venue

Kyoto University, KUIAS
iCeMS Main Building

2F Seminar Room
(#A207)

Registration

· Required from Google form
(https://forms.gle/9FvTR1tiULtQNJ9D8)

· On-site only

Contact

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Furukawa Group

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Multifunctional Nanoparticle for Cancer Theranostics and Drug Delivery

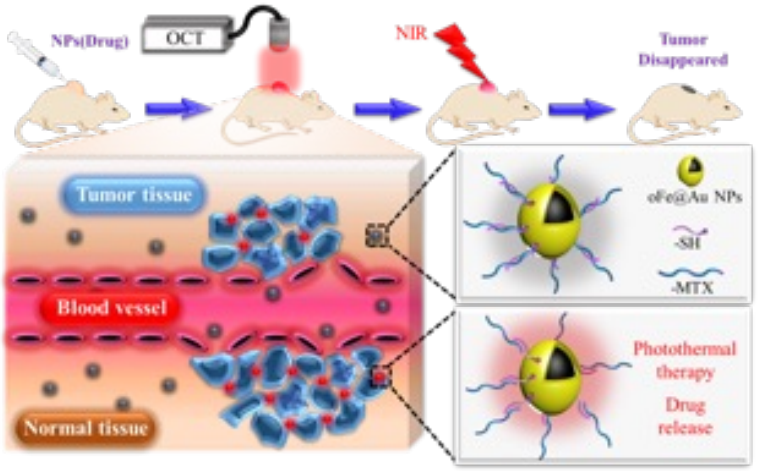
Prof. Ren-Jei Chung

Department of Chemical Engineering and Biotechnology

National Taipei University of Technology (Taiwan)

Abstract

An uncontrolled division of cells characterizes cancer and continues to be the leading cause of death. Nanoparticles, in particular, have been extensively employed to target cancer. For instance, gold, iron oxide, and silica nanoparticles have tumor imaging, drug delivery, and photodynamic therapy applications. This is attributed to the nano size of these particles, which makes it easier to be engulfed by the cells where the disease-specific treatment can be delivered. Further, Enhanced Permeability Retention (EPR) leads to the accumulation of nano-particulate carriers, prolonging the circulation and making them an ideal vehicle for cancer therapy. Photothermal hyperthermia and Magnetic thermal hyperthermia therapy are promising therapeutic strategies for treating various cancers because of their remarkable effectiveness, low cost, non-invasiveness, minimized damage to normal tissues, and excellent tissue penetrability. Cancer cells are generally more sensitive to hyperthermia than normal cells and undergo apoptosis when exposed to elevated temperatures between 42-46 °C.



FURUKAWA LAB

iCeMS KYOTO UNIVERSITY WPI Research Center

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