高分子学会九州支部　外国人学者講演会

Organic Conductive Nanomaterials: From Solar Cells to Cancer Cells

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場所：九州大学伊都キャンパス 先導物質化学研究所（CE41）セミナー室
共催：九州大学高分子機能創造リサーチコア・九州大学先導物質化学研究所

導電性有機ナノ材料の太陽電池やバイオ界面への応用で活発に研究されている若手研究者である Hsiao-hua Yu (尤嘯華) Associate Research Fellow (Academia Sinica, Taiwan) に、太陽電池、バイオ界面での細胞の機能性制御をはじめとした最近の研究成果をご講演いただきます。皆様のご参加をお待ちしております。

Abstract. Interfacing materials with cells through specific ligand/receptor interactions, matching mechanical properties, and matching nanostructures are very critical in biomedical technologies. Recently, π-conjugated polymers have emerged for various related applications, ranging from biosensing to medical bionics. Many features of conducting polymers, including simplicity for nanostructure fabrication, tailored functional groups for bioconjugation, intrinsic electrical conductivity, and softer mechanical characteristics than metals, provide advantages as materials for cell-related diagnostic and therapeutic platforms as well as controlled cell engineering. Because of the molecular advantageous features of dioxythiophenes, we are particularly interested to develop general approaches for their polymeric nanostructures with various functional groups. We enlarged the dioxythiophene-based monomer library with a variety of molecular building blocks from biomimetic approaches. One specific area we are working on is cell engineering, particular interface between cells and electrical input/output. Herein, I would like to discuss our recent efforts on designing π-conjugated polymers which could specifically interact with neuron cells and provide electrical stimulation for enhanced growth and stimulated release of these cells.

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