

ヘルスケアのための
体内埋め込み型マイクロデバイス
Implantable microdevices for healthcare

講演者 (Speaker) : Prof. Yun Jung Heo

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**日時 (Date & Time) : Friday, Aug. 3, 2018
16:30-18:20 (Open 16:00)**

会場 (Venue) : 厚生棟 大会議室 (16-A F3)

**主催 (Host) : 慶應義塾大学グローバルリサーチインスティテュート(KGRI)
基軸PJ創造クラスター**

講演概要 (Summary of Lecture) :

1. Subcutaneous sensors for continuous glucose monitoring

Continuous glucose monitoring system (CGMS) with implanted sensors allows diabetic patients to effortlessly recognize changes in blood glucose concentration and signals a warning in the case of high and low blood glucose concentrations, even when diabetic patients are sleeping. We developed fluorescent hydrogel fibers and implanted sensors under mouse ear skin. Fluorescence intensity of implanted hydrogel fibers continuously responded to blood glucose concentrations for up to 140 days, thus showing potential for subcutaneous sensors for long-term CGMS.

2. Photolithography for microneedle fabrication

Microneedles have been explored as a new class of effective transdermal drug delivery systems (DDS) with a minimally invasive, less painful and self-administrable method. We proposed inclined/rotated photolithography for direct fabrication of negative-photoresist and photocurable-hydrogel microneedles. We estimated microneedle dimensions based on theoretical analysis and demonstrated the scalability of inclined/rotated UV lithography. This estimable scalability can be powerful in on-demand microneedle fabrication for wide applications.

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Free admission, Open to anyone,
Pre-registration not required