Keio University Global Research Institute (KGRI)
Lecture series

【生物学応用のための実用的な in vitro技術プラットフォーム 】
【Enabling technology platforms in vitro for biological applications 】

講演者（Speaker）:Dr. Nakwon Choi

主席研究員・韓国科学技術研究院（KIST）

日時（Date & Time）: Friday, April 20, 2018
17:00-18:30 (Open 16:45)
会場（Venue）:厚生棟　大会議室（16-A F3）
主催（Host）:KGRI

講演概要（Summary of Lecture ）:

Part 1: Brain/neural tissue engineering

In native tissues, cellular and acellular components are anisotropically organized and often aligned in specific directions, providing structural and mechanical properties for actuating biological functions. Thus, engineering alignment not only allows for emulation of native tissue structures but might also enable implementation of specific functionalities. By exploiting the elastomeric property of polydimethylsiloxane and fibrillogenesis kinetics of collagen, here we introduce a simple yet effective method to assemble and align fibrous structures in a multi-modular three-dimensional conglomerate. Applying this method, we have reconstructed the CA3–CA1 hippocampal neural circuit three-dimensionally in a monolithic gel.

Part 2: Hydrogel-based multiplex bioassay

Photocrosslinkable hydrogel such as polyethylene glycol diacrylate (PEGDA) is an appealing matrix for detecting various biological markers such as DNAs, miRNAs, mRNAs, and protein. We present hydrogel-based multiplex bioassays enabled by photopatterning PEGDA constructs in microfluidic channels. This platform can serve as a useful tool for both in vitro diagnostics and prognosis.

お問合せ先（**Inquiries**）:尾上弘晃（**Hiroaki Onoe**）
Room Number: 25-202
e-mail:onoe@mech.keio.ac.jp

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

KGRI
Keio University Global Research Institute