平成２４年２月３日

特別講演のご案内

日時: 平成24年3月6日(火) 13:00～14:30

場所: 大学院セミナー室5F(新棟)

講師: Dr. Tsung-Yi Ho

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講演題目:

Design Automation for Digital Microfluidic Biochips: From Fluidic-Level Toward Chip-Level

概要:

Advances in droplet-based digital microfluidic biochips (DMFBs) have led to the emergence of biochips for automating laboratory procedures in biochemistry and molecular biology. These devices enable the precise control of microliter of nanoliter volumes of biochemical samples and reagents. They combine electronics with biology, and integrate various bioassay operations, such as sample preparation, analysis, separation, and detection. To meet the challenges of increasing design complexity, computer-aided-design (CAD) tools have been involved to build DMFBs efficiently. This talk presents an overview of DMFBs and describes emerging CAD tools for the automated synthesis and optimization of DMFB designs, from fluidic-level synthesis to chip-level design. Design automations are expected to relieve the design burden of manual optimization of bioassays, time-consuming chip designs, and costly testing and maintenance procedures. With the assistance of CAD tools, users can concentrate on the development and abstraction of nanoscale bioassays while leaving chip optimization and implementation details to CAD tools.

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