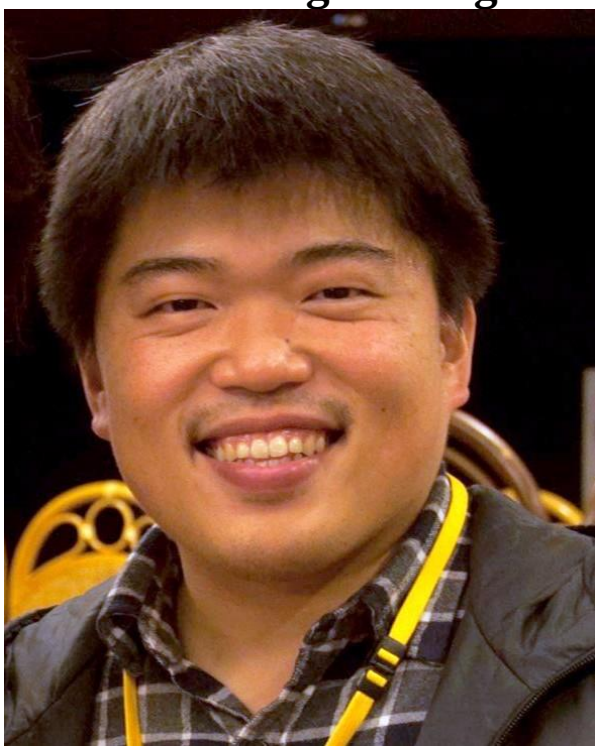
The Department of Mechanical Engineering
College of Engineering and Applied Sciences
Stony Brook University

Mechanical Engineering Seminar



Dr. Chia-Hung Tsai
Department of Mechanical Engineering at Osake University

Lecture Title: Microchannel Deformation for Lab-on-a-Chip Applications

Friday, March 13, 2015 at 11AM, Room 173 Light Engineering Building

Abstract

Lab-on-a-chip (LOC) technology has become a very popular platform for cell evaluation and manipulation, especially in biomedical fields. While most LOC devices are made from Polydimethylsiloane (PDMS), a kind of soft polymer, it deforms under a given force. In this seminar, we will start showing an observation of microchannel deformation in a LOC system during an experiment. The deformation is unexpected and even undesirable for cell tests. However, we would be able to turn the deformation into our own advantages by creative designs. The improvement by using such deformation is supported by both theoretical modeling of the deformation and the results from experiments. A close look of cell manipulation will be presented during the presentation.

Biography

Chia-Hung Tsai (Dylan) is currently a postdoctoral fellow in the Department of Mechanical Engineering at Osaka University in Japan. He received his B.S. degree from National Taiwan University in Taiwan in 2002 and the Ph.D. degree from Stony Brook University in 2010. His research interest includes Lab-on-a-chip system, biomechanics, high-speed vision and contact modeling for viscoelastic interface.

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