



**Seminar Topic:
Skin Electronics Connecting Cyberspace to Human Body**

**Professor Takao Someya
The University of Tokyo**

Abstract

The human skin is a large-area, multi-point, multi-modal, stretchable sensor, which has inspired the development of an electronic skin for robots to simultaneously detect pressure and thermal distributions. By improving its conformability, the application of electronic skin has expanded from robots to human body such that an ultrathin semiconductor membrane can be directly laminated onto the skin. Such intimate and conformal integration of electronics with the human skin, namely, smart skin, allows for the continuous monitoring of health conditions. The ultimate goal of the smart skin is to non-invasively measure human activities under natural conditions, which would enable electronic skins and the human skin to interactively reinforce each other. In this talk, I will review recent progresses of stretchable thin-film electronics for applications to robotics and wearables. Furthermore, the issues and the future prospect of smart skins will be addressed.

Biography

Professor Takao Someya is a Professor in the Department of Electrical Engineering and Information Systems at The University of Tokyo. He received his PhD degree in Electrical Engineering from The University of Tokyo in 1997. From 2001 to 2003, he worked at the Nanocenter (NSEC) of Columbia University and Bell Labs, Lucent Technologies, as a Visiting Scholar.

His current research focuses on stretchable and flexible organic electronics for the applications to healthcare, biomedical and robotics. He has been a GlobalFoundries Visiting Professor at National University of Singapore since 2016, Hans Fischer Senior Fellow at Technical University of Munich since 2017 and a Global Scholar at Princeton University from 2009 to 2017. He sat on the Board of Directors at MRS from 2009 to 2011. His “large-area sensor array” electronic thin film was featured in Time Magazine as one of its “Best Inventions of 2005” in its 21st November, 2005 issue.

**Tuesday, 6 August 2019 || Time: 4:00 pm – 5:00 pm||
Venue: Lecture Theatre at The ARC (LHN-B1-15)
Hosted by: Prof Chen Xiaodong**