Development of IoT Sensor Network Health-care System
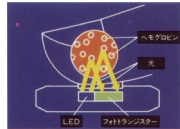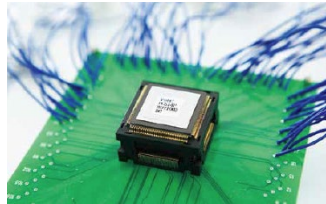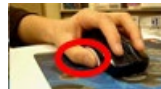## Professor   Michio YOKOYAMA

Photoplethysmography Sensor
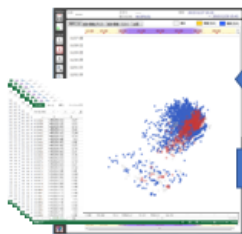
Low-power Design

Tangible sensing

IoT Sensor-network System

BIG-data Analysis

IoT Health-care System

Content: We're working on the development of IoT sensor-network system with which health management can be performed "anytime and anywhere".

①**"Measuring"** We are developing a system useful for health management in which fingertip pulse waves are measured and then pulse, blood pressure and stress are also estimated. The natural biological data is measured in ordinary activities such as operating a PC, a smartphone, and the like without noticing measurement and is then analyzed. The system is under development to provide health management with a touch of it and advice as necessary.

②**"Processing"** We are designing and evaluating IC chips to perform arithmetic processing of measured signals. We set the goal to develop an environment-friendly ecosystem that is compact and ultra-low power consuming with use of a new method called adiabatic logic circuit technique.

③**"IoT system"** In the ubiquitous health management system, it is indispensable to transmit data using high-frequency radio communication. Thus, we design antennas, signal processing filters, amplifiers, and more and implement those on compact and highly-functional boards. Now we are developing IoT sensor-bed system for comfortable sleeping & awakening.

Appealing Point: I am going to promote the "Industry-academia collaboration" aggressively.

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