



NUS
National University
of Singapore

iHealthtech
Institute for Health Innovation
& Technology

"Innovating Health" Distinguished Speaker Webinar Series

Professor Ali Javey

**Lam Research Distinguished Chair in Semiconductor Processing
Professor of Electrical Engineering and Computer Sciences
UC Berkeley, USA**



**29 APR, THU, 6 - 7 PM (San Francisco)
30 APR, FRI, 9 - 10 AM (Singapore)**

Wearable sweat sensors - towards big data for human health

Wearable sensor technologies play a significant role in realising personalised medicine by continuously monitoring an individual's health state. To this end, human sweat is an excellent candidate for non-invasive monitoring as it contains physiologically rich information. For this talk, Prof Javey will present his recent work on a fully integrated perspiration analysis system that can simultaneously measure sweat rate, metabolites, electrolytes, drugs and heavy metals, as well as the skin temperature to calibrate the sensors' response. The work bridges the technological gap in wearable biosensors by merging plastic-based sensors that interface with the skin, and silicon integrated circuits consolidated on a flexible circuit board for complex signal processing. This integrated wearable system is used to measure the detailed sweat profile of subjects engaged in prolonged physical activities and infer real-time assessment of the physiological state of the subjects. Case studies on the correlation of sweat analytes with blood and various physiological conditions will be presented, including applications in dehydration studies, diabetes monitoring, drug metabolism rate studies, and detection and monitoring of cystic fibrosis. Finally, a general roadmap for the technology will be presented, with focuses on opportunities and challenges.

[Click here for the speaker biography](#)



**Register
here**

https://nus-sg.zoom.us/Ali_Javey_zoom_link



Email: ask.iht@nus.edu.sg

Co-hosted with:



HealthTEC
Singapore
Health Technologies Consortium