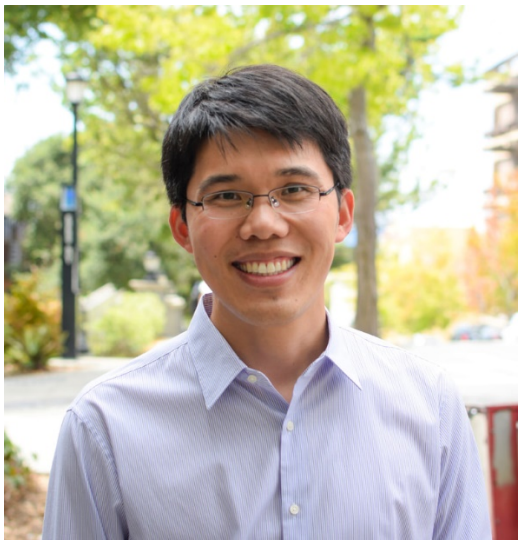
UCLA Engineering
HENRY SAMUELI SCHOOL OF
ENGINEERING AND APPLIED SCIENCE

BIOENGINEERING

PRESENTS

"Skin-Interfaced Wearable Biosensors"



THURSDAY, April 15th, 2021
12:00 – 1:00 PM
Zoom Link:
https://ucla.zoom.us/j/97216069429

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Cal Tech

ABSTRACT:

The rising research interest in personalized medicine promises to revolutionize traditional medical practices. This presents a tremendous opportunity for developing wearable devices toward predictive analytics and treatment. In this talk, I will introduce our efforts in developing fully-integrated skin-interfaced biosensors for non-invasive molecular analysis. Such wearable biosensors can continuously, selectively, and accurately measure a broad spectrum of sweat analytes including metabolites, electrolytes, hormones, drugs, and other small molecules. The clinical value of our wearable sensing platforms is evaluated through multiple human studies involving both healthy and patient populations toward physiological monitoring, nutritional monitoring, disease diagnosis, mental health assessment, and drug personalization. This talk will feature our recent works on self-powered battery-free electronic skins and mHealth-based biosensors for multiplexed COVID-19 diagnosis and management. These wearable and flexible devices could open the door to a wide range of personalized monitoring, diagnostic, and therapeutic applications.

BIOGRAPHY:

Wei Gao is an Assistant Professor of Medical Engineering in Division of Engineering and Applied Science at the California Institute of Technology. He received his Ph.D. in Chemical Engineering at University of California, San Diego in 2014 as a Jacobs Fellow and HHMI International Student Research Fellow (2012–2014). In 2014–2017, he was a postdoctoral fellow in the Department of Electrical Engineering and Computer Sciences at the University of California, Berkeley. He is a recipient of Sloan Research Fellowship (2021), IEEE EMBS Early Career Achievement Award, IEEE Sensor Council Technical Achievement Award, 3M Non-Tenured Faculty Award, MIT Technology Review 35 Innovators Under 35, and ACS DIC Young Investigator Award. He is a World Economic Forum Young Scientist (Class of 2020), a member of Global Young Academy (Class of 2019), and a 2020 Highly Cited Researcher (Web of Science). He is an

Associate Editor of Science Advances. His research interests include wearable devices, biosensors, flexible electronics, micro/nanorobotics, and nanomedicine.
For more information about Gao's research, visit www.gao.caltech.edu.