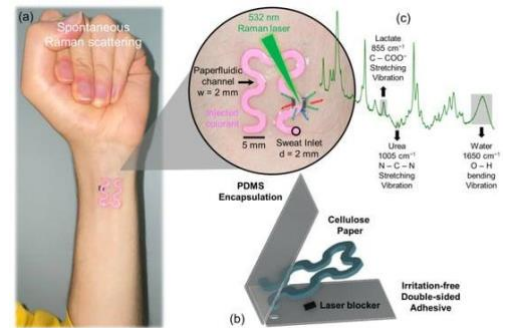


# Bio/Nano/CMOS Interfaces for Remote Monitoring of Human Metabolism



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<https://www.epfl.ch/labs/bci/>

**Tuesday, April 16, 2024**

**2:00-3:00pm**

**Fung Auditorium, Powell-Focht Bioengineering Hall**

**University of California San Diego**

**Zoom: <https://ucsd.zoom.us/j/2888083696>**

**Abstract:** IoT wearable-devices (accelerometers, heartbeat monitoring systems, etc) are key for better, more rational, effective and ultimately low-cost health care at home. However, these systems do not usually allow measurement of metabolites at the molecular level. So far, there are no available integrated nano-bio-systems for multi-metabolites, real-time, remote monitoring of human metabolism. This talk presents innovative concepts for multi-panel, highly integrated, fully implantable, remotely powered and real-time molecular-level monitoring of human metabolism. Applications are shown in the field of implantable and wearable devices, with in-vivo experiments, and addressing biocompatible-packaging, flexible electronics, and monitoring-needs in intensive care units. Future perspective on injectable *body dust* devices are addressed as well.

**Biography:** Sandro Carrara is an IEEE Fellow and recipient of the IEEE Sensors Council Technical Achievement Award. He is a professor and head of the Bio/CMOS Interfaces Laboratory at EPFL in Lausanne, Switzerland. He is a former professor at the Universities of Genoa and Bologna, Italy. He published 7 books (including with Springer/Nature and Cambridge University Press) and over 400 scientific publications, and holds 19 patents. He is Editor-in-Chief of the IEEE Sensors Journal, and Associate Editor of the IEEE Transactions on Biomedical Circuits and Systems. He is a member of the IEEE Sensors Council and its Executive Committee, and served on the Board of Governors (BoG) of the IEEE Circuits and Systems Society (CASS).

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