

BIOENGINEERING

PRESENTS

Engineering smart and mobile technologies for global health



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2101 ENGINEERING V

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ABSTRACT:

Advancements in semiconductor materials have enabled the development of more powerful smart and mobile devices. These technologies have a great potential to improve the quality of life for many people, especially in resource limited settings, by sensing, imaging, and identifying a wide range of microbiological targets in challenging samples. Field portability, cost effectiveness, high sensitivity and specificity, rapid and automated analysis, readily availability, simplicity and ease of use are the major features of these devices that makes them unique analytical tools for point-of-care diagnosis and analysis. Together with microfabrication technologies, robotics and artificial intelligence will empower these mobile technologies to reveal new insights to the bioengineering field. This talk will present an overview of the smart and mobile technologies that we developed for the detection of a variety of biological analytes ranging from genes to parasites.

BIOGRAPHY:

Hatice Ceylan Koydemir is a senior researcher at the Department of Electrical and Computer Engineering at UCLA. Her research interests include biophotonics, optical sensors, MEMS based biosensors, micro-fabrication technologies, and lab-on-a-chip devices for point-of-care diagnosis and analysis. Ceylan Koydemir received her B.Sc. degree in Environmental Engineering in 2004, her minor degree in Food Engineering in 2004, M.Sc. and Ph.D. degrees in Chemical Engineering in 2007 and 2013 respectively, from Middle East Technical University (METU) in Turkey. Following her Ph.D., she joined to the Ozcan Research Group at UCLA as a postdoctoral researcher. She is a recipient of METU Ph.D. Thesis of Year Award in 2013, Prof.Dr. Hasan Orbey Ph.D. Thesis Award in 2011 and Dr. Haluk Sanver Technology Award in 2013 given by Department of Chemical Engineering at METU. She has more than 20 peer reviewed articles, 50+ conference presentations, a book chapter as well as 1 issued and 2 pending patent applications.