

Development of BioAnalytical Microsystems for Point of Care Applications

Sequence-specific DNA detection platforms using electrical or electrochemical means are attractive approaches for decentralized and point of care applications. Although the fluorescence-based assay format has very much been a golden standard in the diagnostics market, its requirement for bulky fluorescence optical system largely limits its use in point of care applications. My research group over the years has demonstrated several microchip-based platforms promising for point-of-care multiplexed pathogen detections. In this talk, I will present a complete DNA assay on a Si/glass microdevice [1] and a microchip for electrochemistry-based real time polymerase chain reaction (ERT-PCR) [2-3]. New electrical and electrochemical DNA detection approaches will be highlighted. Future challenges for the development of miniaturized E-biomicrosystems for point-of-care applications will be discussed.

Prof. I-Ming HSING

The Hong Kong University
of Science and Technology



香港科技大學

THE HONG KONG UNIVERSITY OF
SCIENCE AND TECHNOLOGY