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# BioPoc Technology: Portable medical diagnostic devices based on responsive polymer biosensors and low-cost transducers for point-of care applications

Přednáška se koná

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The ability to perform low-cost and easy-to-perform point-of-use assays would enable testing, typically reserved for well-equipped laboratories, to be performed in circumstances where resources and expertise are limited. This lecture deals with the principles of a novel “Biosensors for Point-of-Care” (BioPoC) technology and the development of medical diagnostic devices able to provide reliable clinical measurements at undiluted and untreated biological samples.

The proposed diagnostic devices employing novel responsive polymer-based biosensors and their operation is based on newly devised transduction and measuring principles. Diagnostic devices include a single microfluidic vertical channel and their operation is based on the measurement of the time required the infinite electric resistance between two, uncontacted, conductive layers to reach a finite value as a result of the selective degradation of the responsive polymer membrane by the target analyte (biochemical index). Diagnostic devices have been successfully tested for the determination of urea in urine, as well as, for the detection of *Helicobacter pylori* (*H. Pylori*) in bioptic samples.