

Micro- and Nano-technology for Remote Diving into the Body's Health

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An emerging approach for diagnosing diseases relies on profiling volatile biomarkers that are emitted from cells in the affected area. These volatile biomarkers can be detected either via the exhaled breath or from the skin, without going invasively into the human body. The current talk will present bio-inspired sensing systems that make use of cross-reactive micro and nano-sensor arrays that are trained in their ensemble to detect such volatile disease biomarkers. These systems are termed artificial nose and electronic skin. The development and the use of these systems to identify high-risk groups for specific diseases and genetic mutations and to monitor the therapy provided to people affected by that disease will be presented and discussed.