

Exhaled Breath Ammonia Sensor

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Technology description

For early detection and monitoring of liver/kidney diseases

Advances in microelectronics and new detector materials have increased the capability to detect biomarkers for various diseases. A remaining challenge is to provide sensors that are non-invasive, accurate and reliable.

Detection of ammonia during exhalation through wavelength modulation spectroscopy provides a non-invasive method to diagnose adverse health conditions such as liver or kidney diseases that are associated to ammonia fluctuation.

A sensor developed at KAUST addresses the need for accuracy by using a laser-based technology, which overcomes sensitivity and selectivity limitations that often limit gas detection in medical applications.

This technology has strong potential for the medical devices industry. Its portability, non-intrusiveness, accuracy and small cost make it very attractive for disease detection and monitoring.

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