

LUCIA



Lung Cancer-related risk factors and their Impact Assessment

HORIZON-MISS-2021-CANCER-02

LUCIA Workshop – Understanding Lung Cancer

San Sebastian, Sept. 5th, 2023

Yoav Broza, PhD

Technion - Israel Institute of Technology



Sensing solution for LC screening and diagnostic

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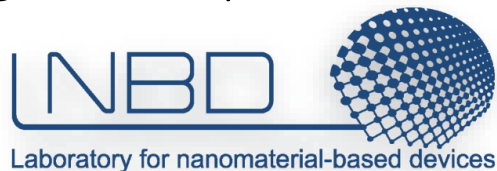


TECHNION

Israel Institute of Technology

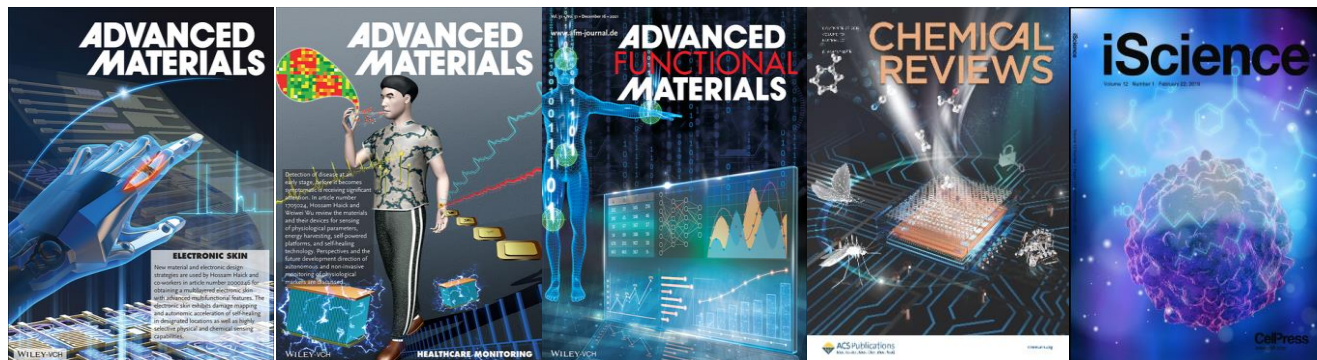
Partner's Overview

- Engineering university



Multidisciplinary

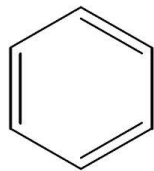
Engineering; Chemistry; Biology; Medicine; Electronics; Computing



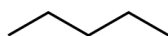
Volatile organic compounds (VOCs)

e.g.,

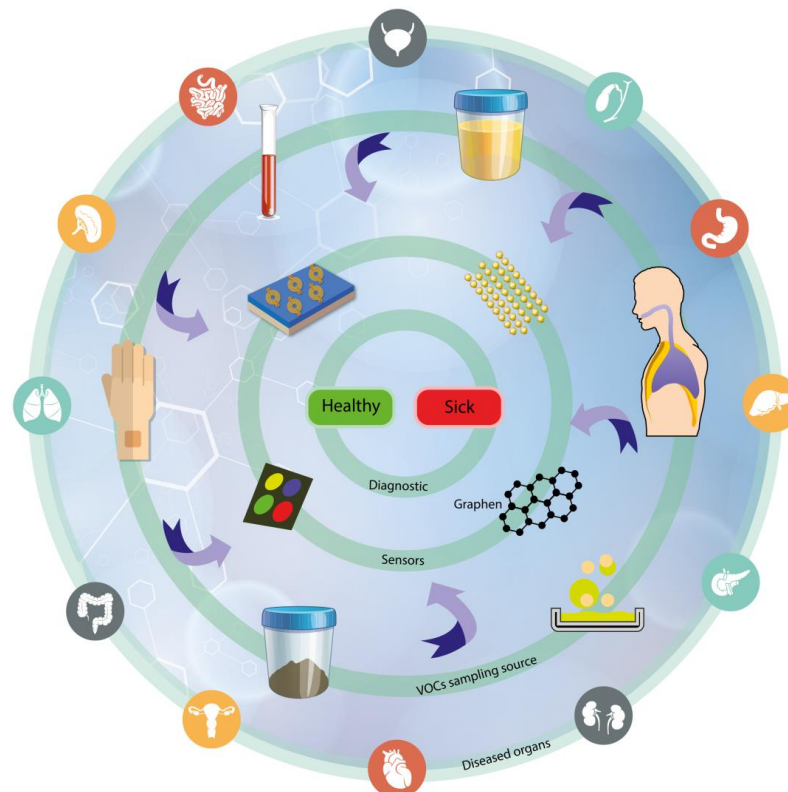
Benzene C_6H_6



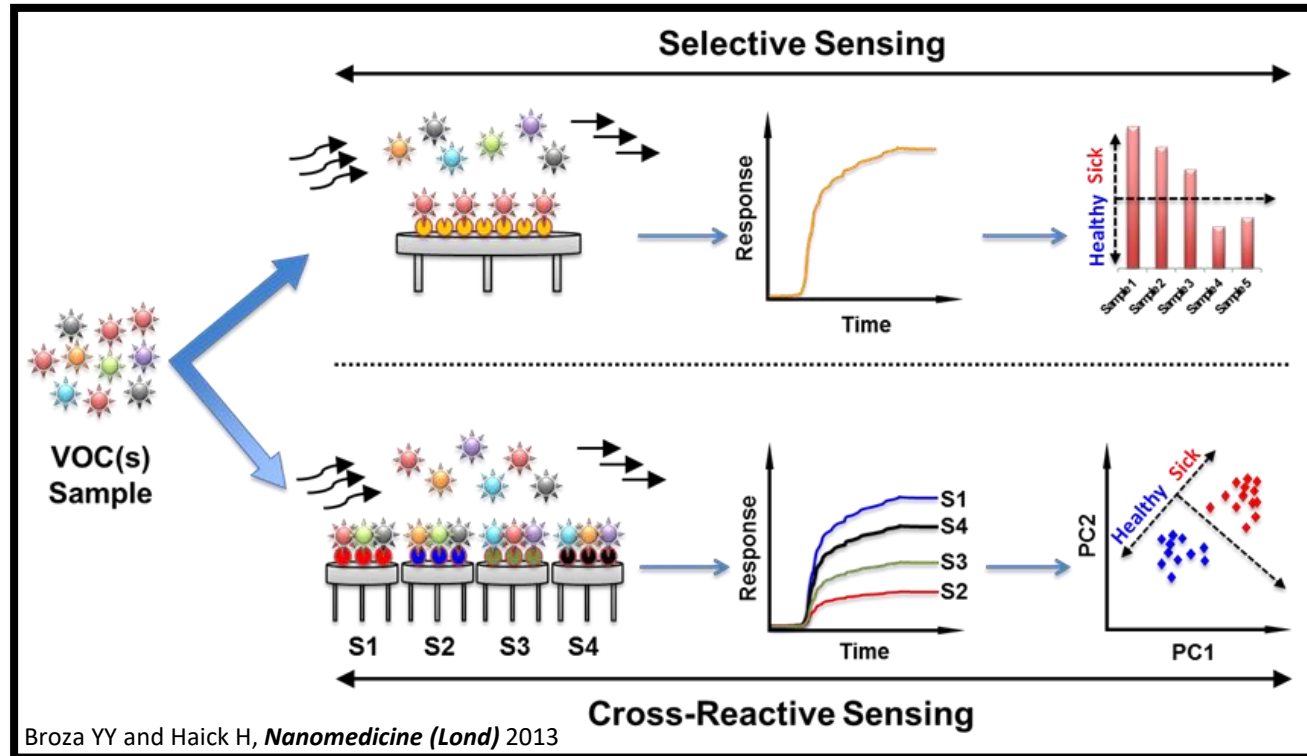
Pentane C_5H_{12}



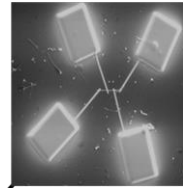
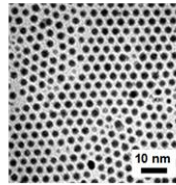
The Disease Smellprint: Volatolomics



Nanomaterial based sensors analysis



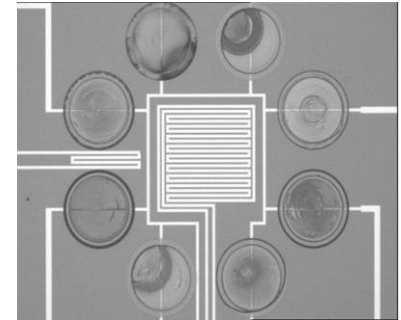
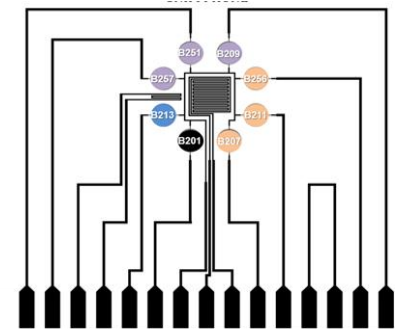
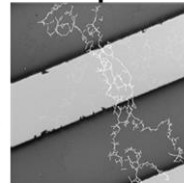
Nano-
particles



Silicon
Nanowires

Highly-sensitive
sensors for sniffing
disease

Carbon
Nanotubes

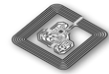


Develop **sensing solution for LC screening and diagnostic**

1) Wide-spectrum-biomarker multi-use sensing patch (WBSP)

Demonstrator

Application



Sensor Tag powered via
NFC



ISO15693 communication



Windows laptop with
USB2.0 port



USB ISO15693 NFC
Reader



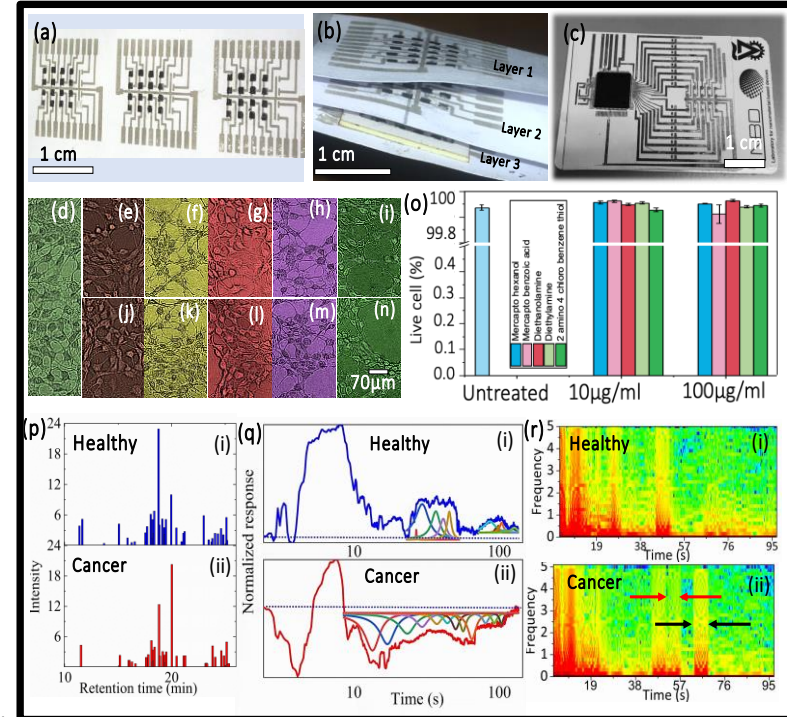
Smartphone with
ISO15693 NFC

Based on A-PATCH

Develop sensing solution for LC screening and diagnostic

2) Spectrometry-on-card (SPOC)

Blood samples



Summary - Technion technology

