

Sensor Technologies

Assoc. Prof. Dr. Sadullah OZTURK

Fatih Sultan Mehmet Vakif University

*Biomedical Electronic Device Design, Application and
Research Center (BETAM)*

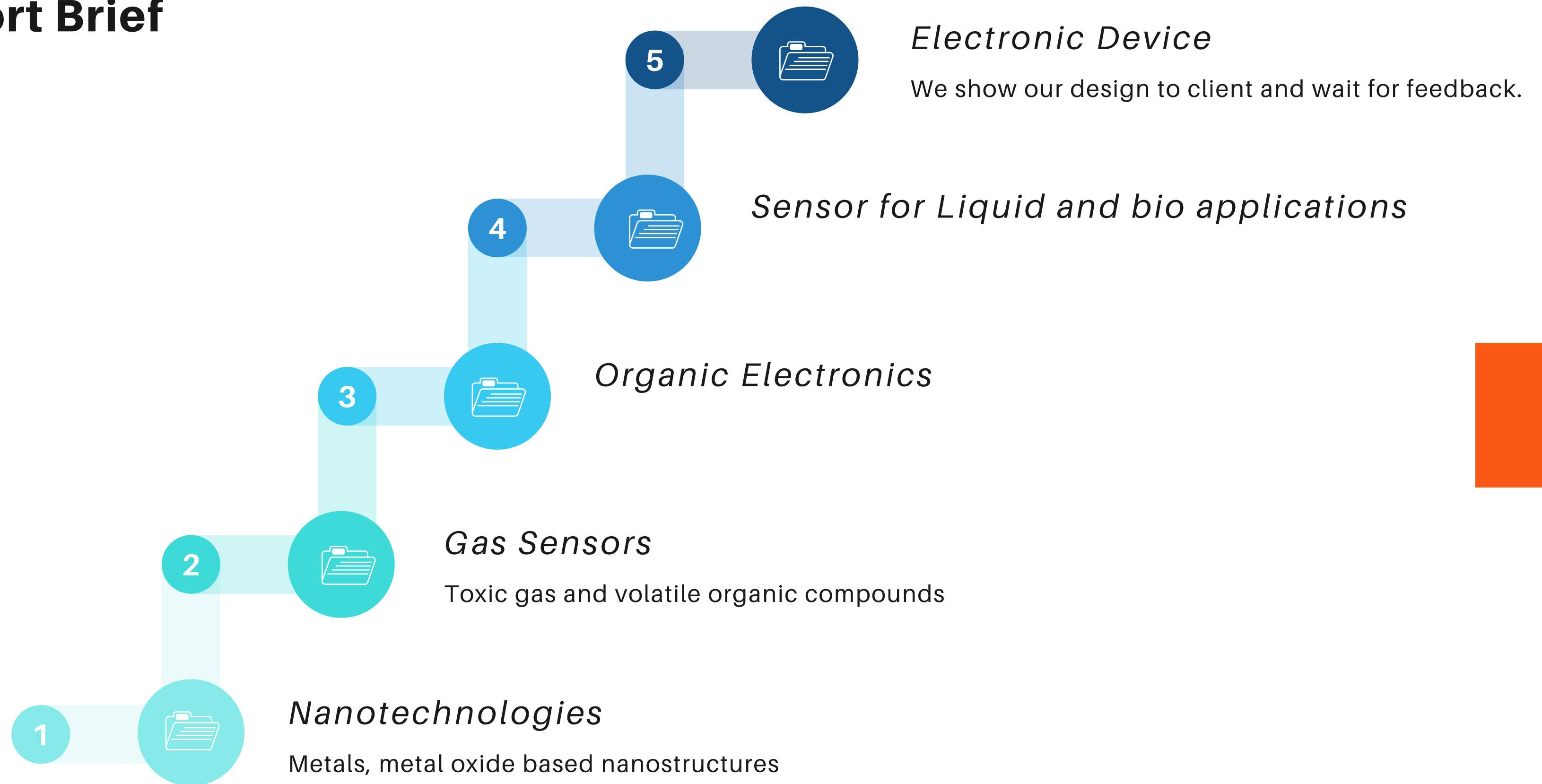
@ sozturk@fsm.edu.tr

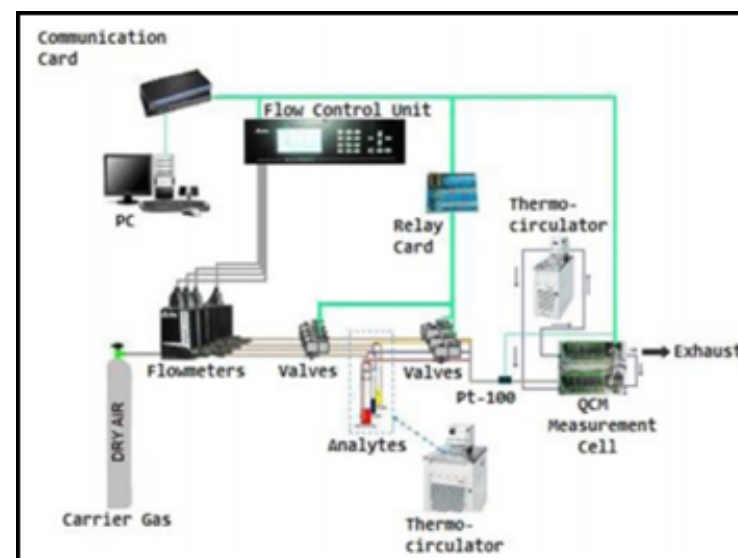
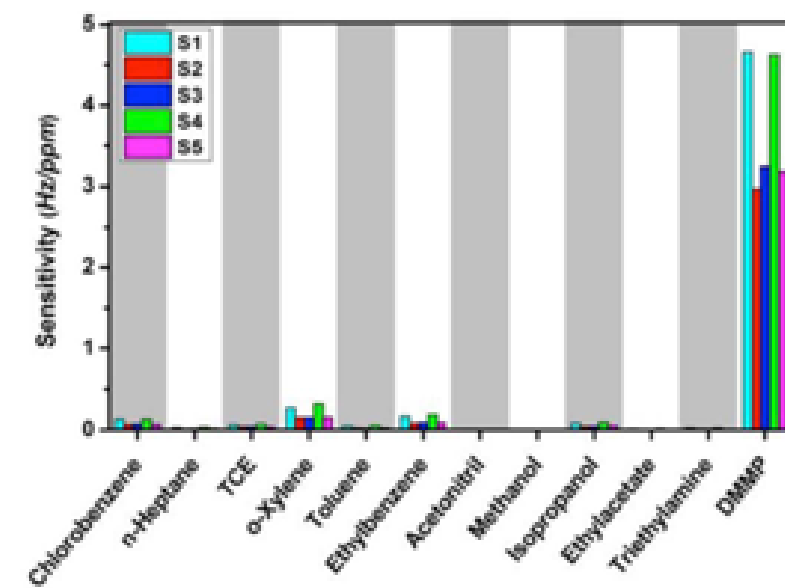
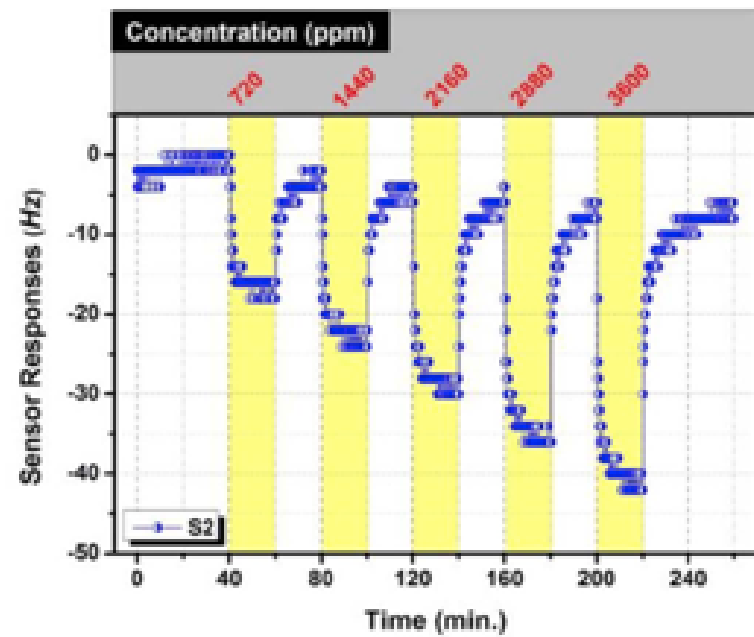
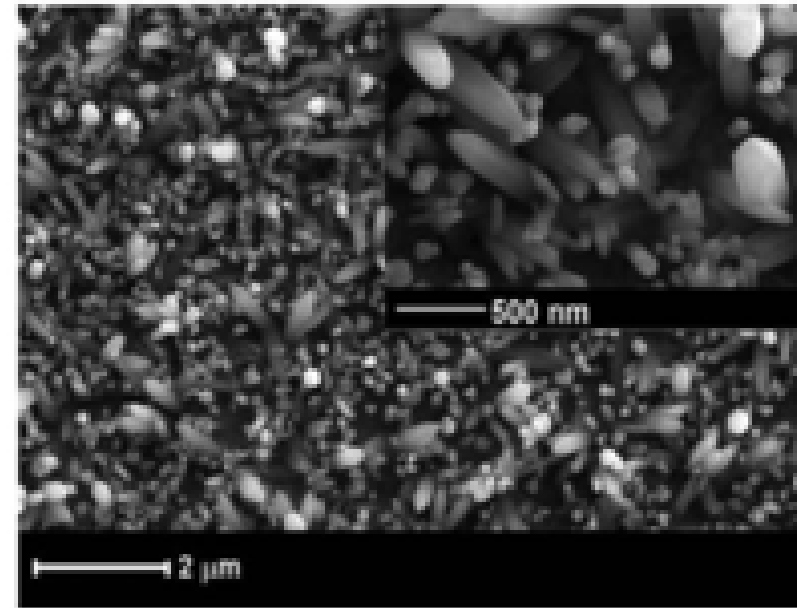
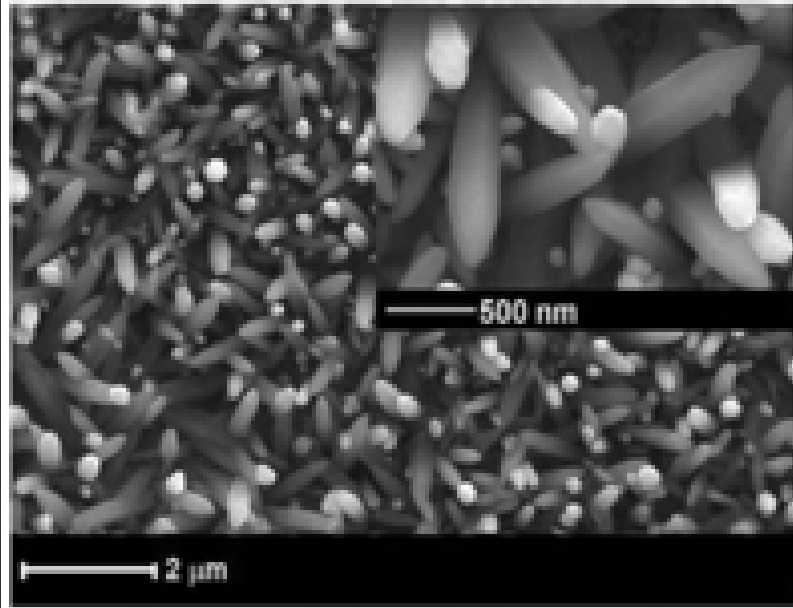
@BFsmvu

Newly attending on Muş Alparslan University Detector Development Groups

I will give a short presentation on our previous works

Short Brief





ZnO nanorods based sensor application

13 different VOCs tested

QCM Transducers

Sensitive to DMMP



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(19) **United States**
 (12) **Patent Application Publication** (10) **Pub. No.: US 2018/0080902 A1**
 ERBAHAR et al. (43) **Pub. Date: Mar. 22, 2018**

(54) **USE OF PIEZOELECTRIC TRANSDUCERS MODIFIED WITH METAL OXIDE-BASED THIN FILMS FOR DIRECT DETECTION OF AMINE DERIVATIVES IN LIQUID MEDIA**

Publication Classification

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G01N 33/18 (2006.01)
 (52) **U.S. Cl.**
 CPC *G01N 29/022* (2013.01); *G01N 33/1826* (2013.01); *G01N 2291/0426* (2013.01); *G01N 2291/0255* (2013.01); *G01N 2291/0256* (2013.01); *G01N 33/1886* (2013.01)

(71) Applicant: **TUBITAK**, Ankara (TR)

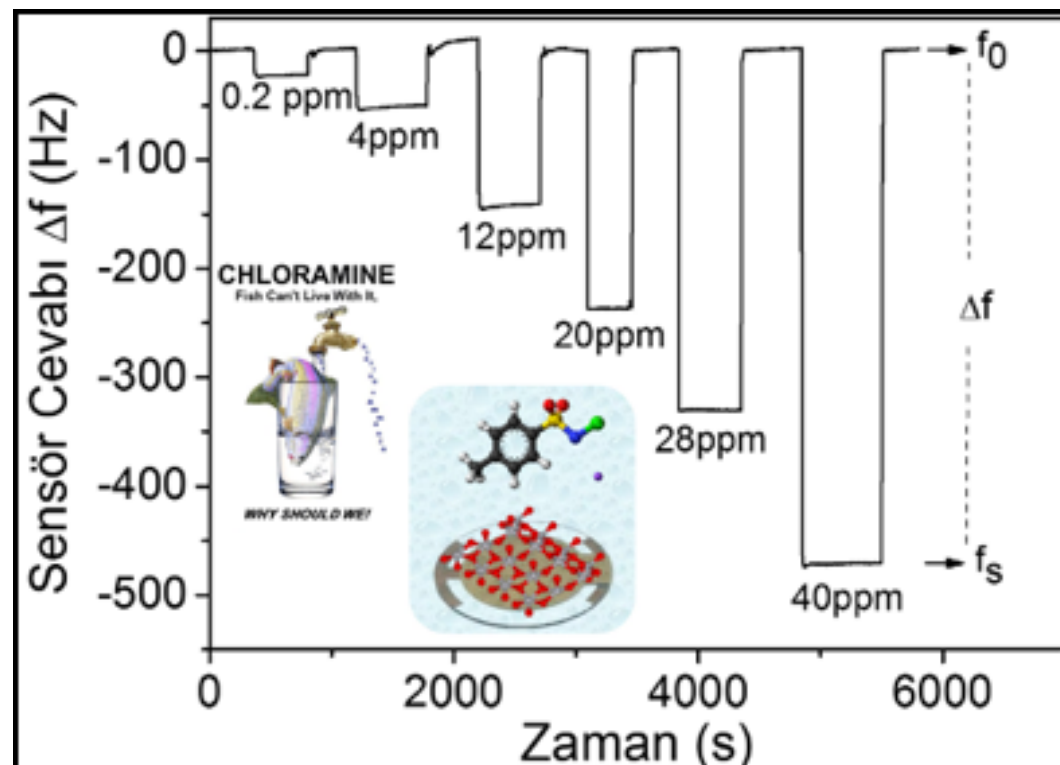
(72) Inventors: **Dilek ERBAHAR**, Kocaeli (TR); **Mika HARBECK**, Kocaeli (TR); **Zafer SEN**, Kocaeli (TR); **Arif KÖSEMEN**, Kocaeli (TR); **Sadullah ÖZTÜRK**, Kocaeli (TR); **Necmettin KILINÇ**, Kocaeli (TR); **Zafer Ziya ÖZTÜRK**, Kocaeli (TR); **Yusuf YERLİ**, Kocaeli (TR)

(57) **ABSTRACT**

The invention discloses a chemical sensor device including a sensitive material formed as a thin film on the active side of a transducer substrate. The sensor uses vanadium oxide (V₂O₅) as a sensing material to detect amine and amine

The sensitivity and limit of detection values for selected amines.

Analyte	Sensitivity (Hz/ppm)	Limit of Detection (ppm)
Triethylamine	1.35	0.7
Buthylamine	1.77	0.6
Hexylamine	1.92	0.5



Sensing material in liquid ambient

Low cost application

US Patented and EU Patented

QCM based

Selective detection for Amines

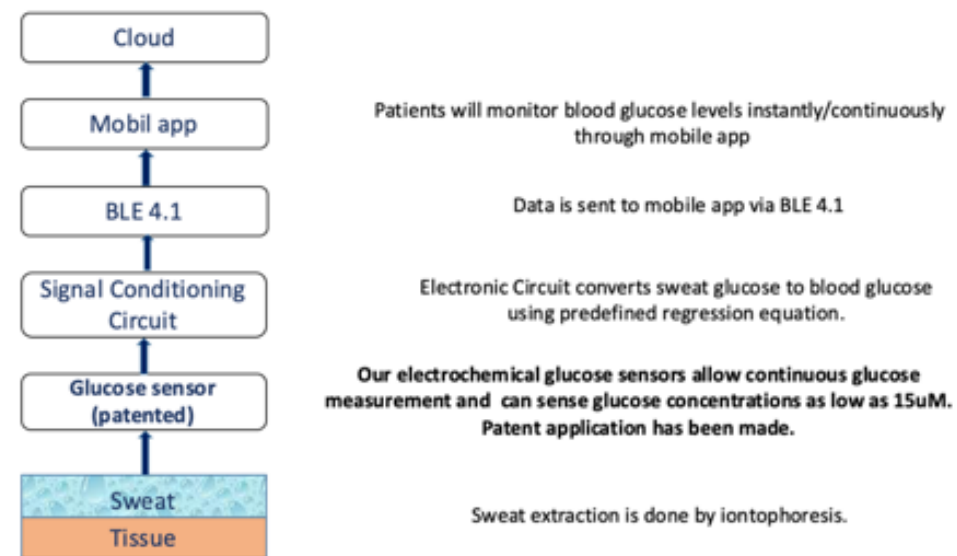
Very low response time



European
Commission

Horizon 2020
European Union funding
for Research & Innovation

Wearable Sweat-based Continuous and Painless Glucose Monitoring Device for Diabetic People



ELEKTROSENS

Non-Invasive Glucose Test Device

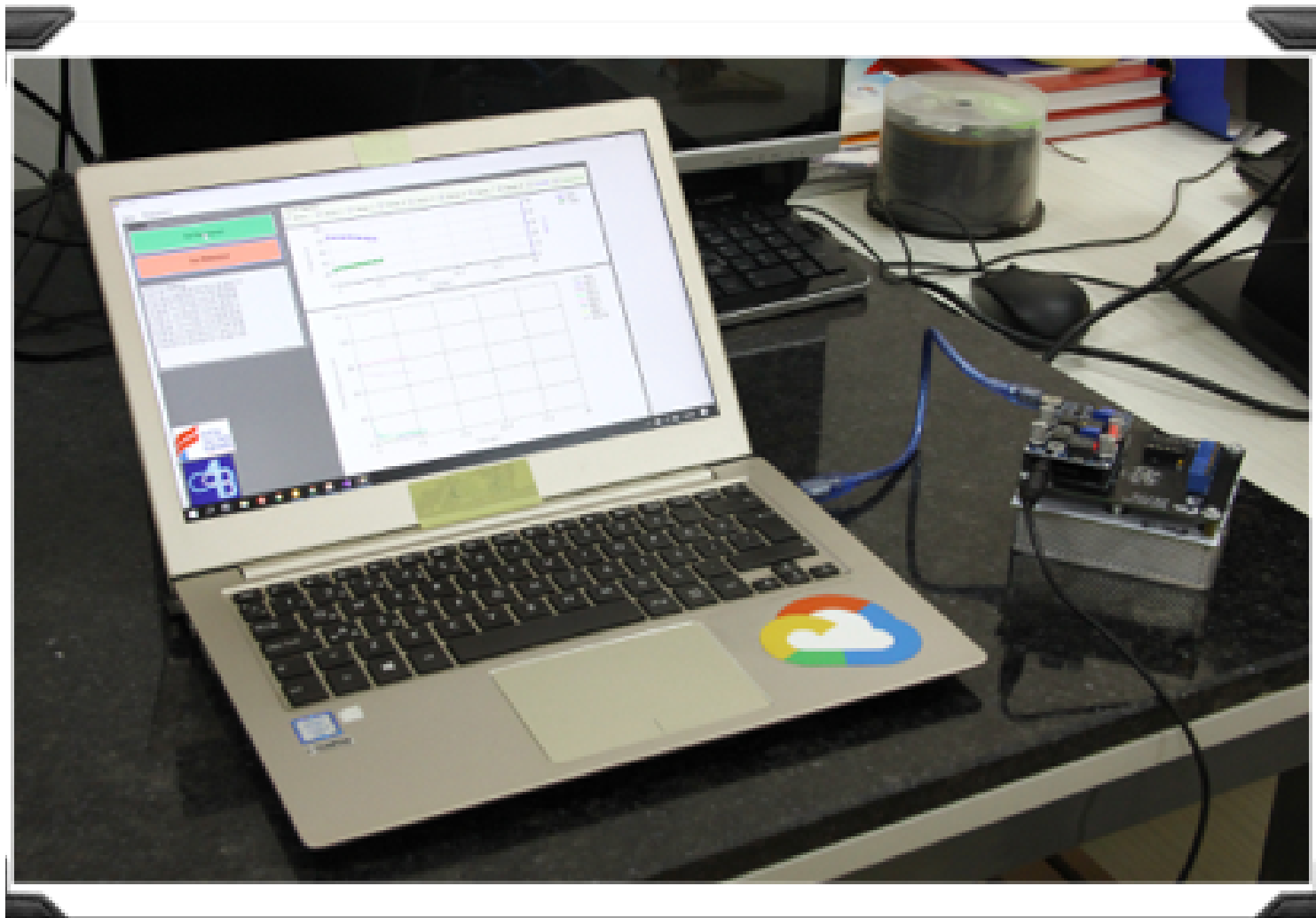
Flexiable Sensor Strip

Flexiable Circuit Board

Suitable for bracelet application

Over 200 Clinical Test

User based (device educated for user biological parameter for two days)



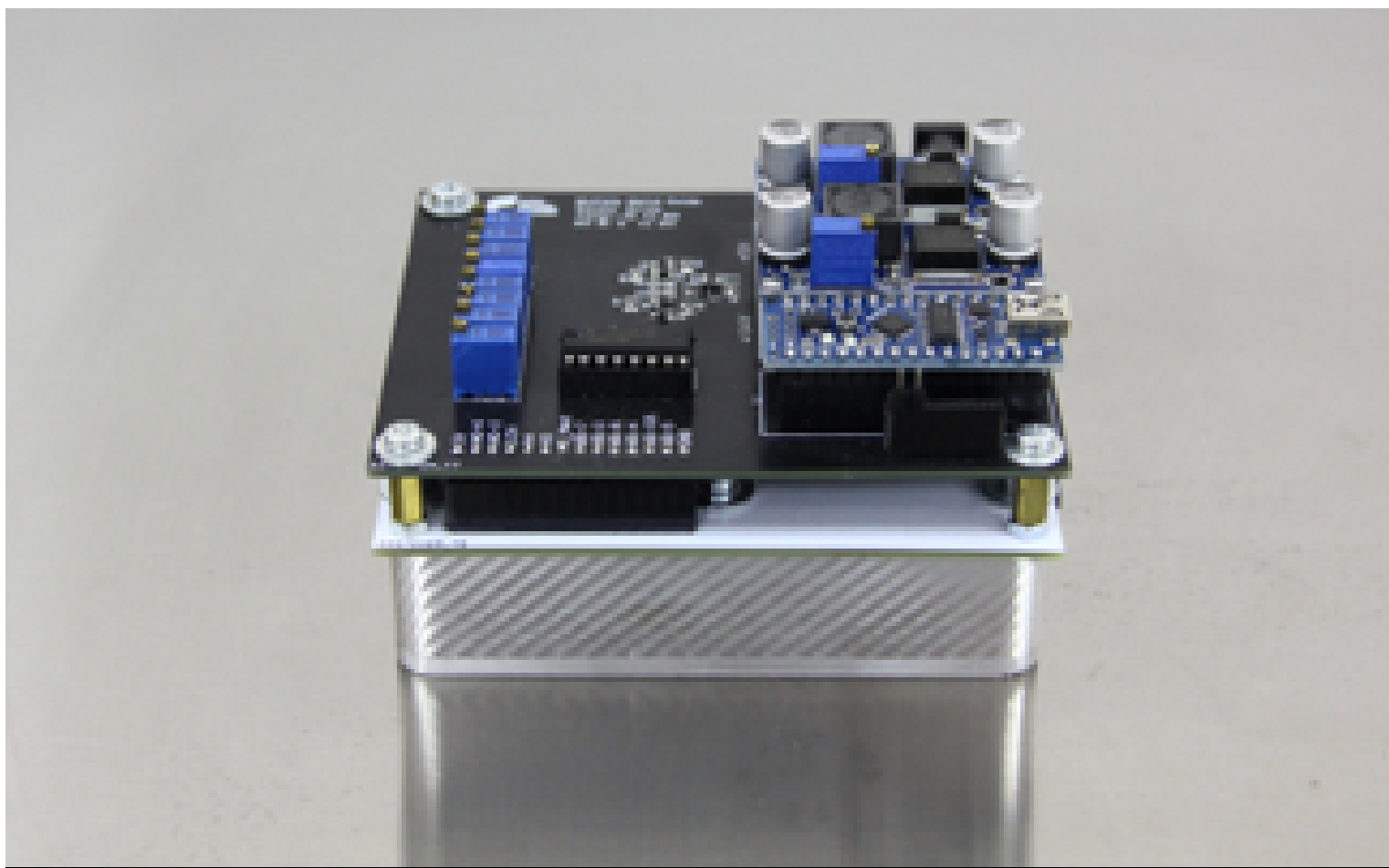
e-Nose

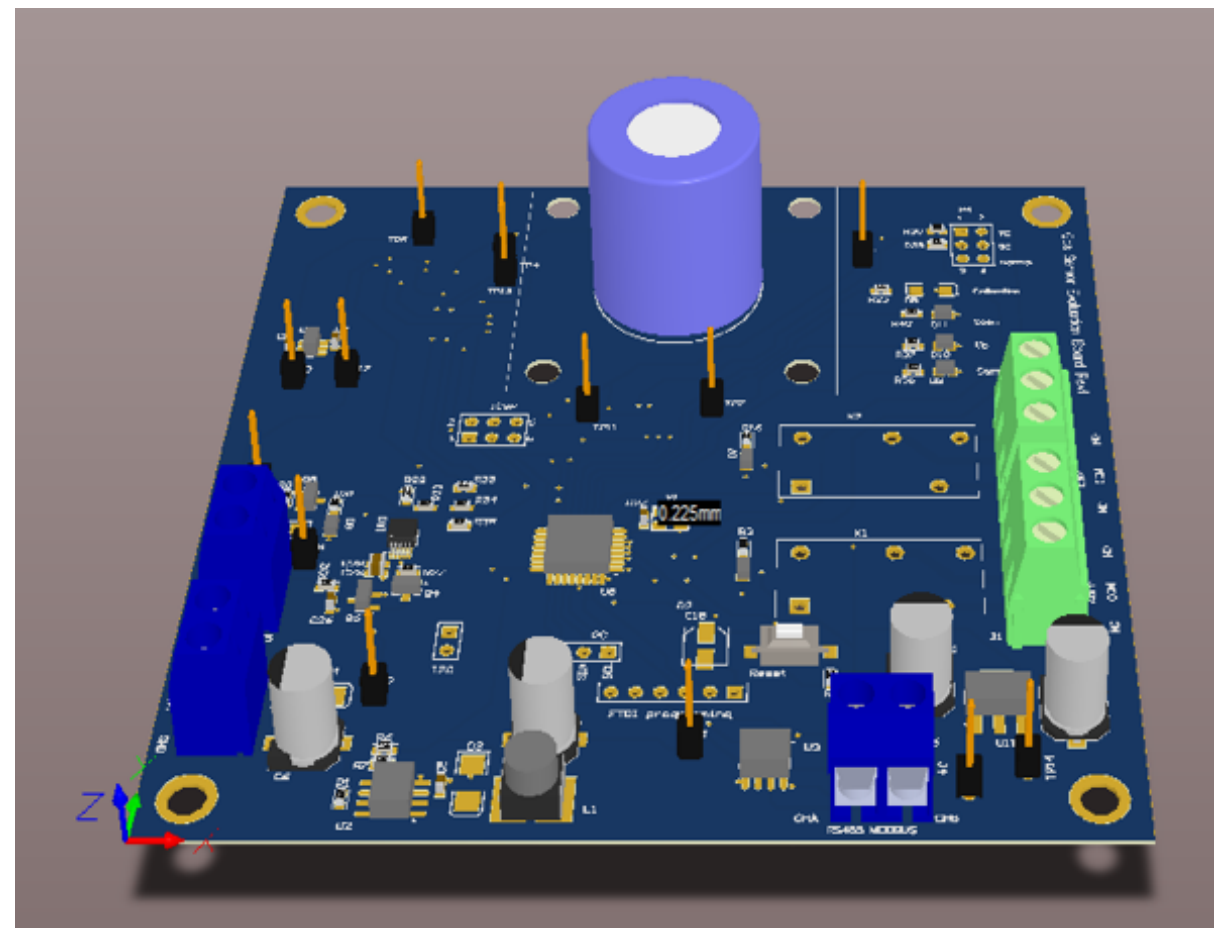
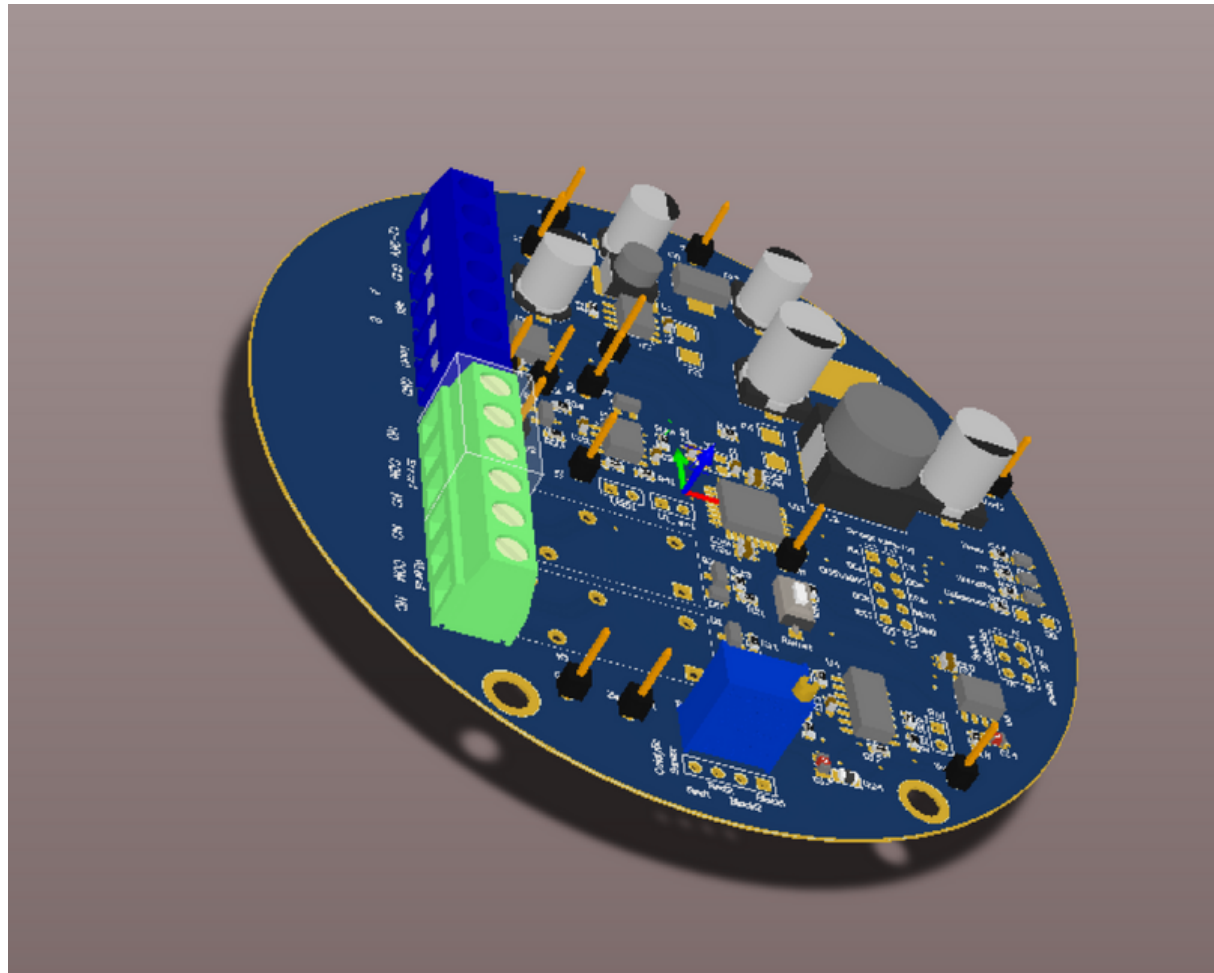
8 commercial sensor

*Artificial Neural Network
(BPA)*

*over %92 accuracy for
determining*

*Undergraduate student
project*





Device Applications

Industrial Application

Toxic and flammable gas detection



Moving to Gas Dedector Electronics

Our initial point is "Signal
Processing of Gaseous UV
Dedector "