

# The Office of Technology Management

UNIVERSITY OF TEXAS  ARLINGTON

Tech ID: UTA 13:36

## A DISPOSABLE ANALYTE SENSOR PLATFORM

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### TECHNOLOGY NEED

Determination of certain analytes in samples (e.g. cyanide in blood, ammonia or nitrate in soils, arsenic in water) can be complicated. Matrix isolation by separating the analyte in a volatile form from the complex sample matrix provides a powerful easy to use solution for many analytes, especially if field-usable platforms that can be used for rapid quantitation can be inexpensively mass manufactured.

### INVENTION DESCRIPTION/SOLUTION

Researchers at UT Arlington have developed a disposable Petri-dish platform with an optical sensor for the analysis of volatile analytes. The device offers flexibility to the user, as it can be of single use or of multiple sequential uses. It can be used for agricultural and environment analyses, as they are inexpensive and are field usable platforms. The cyanide content in blood was effectively measured with the device, making it a suitable commercial device for cyanide quantization. Nitrate or ammonia in soil or arsenic in sediments have been similarly measured. The disposable part of the device has a simple design and can be mass manufactured in single digit dollar. It connects by plastic optical fibers to a non-disposable reader which contains a changeable LED light source and a photodiode.

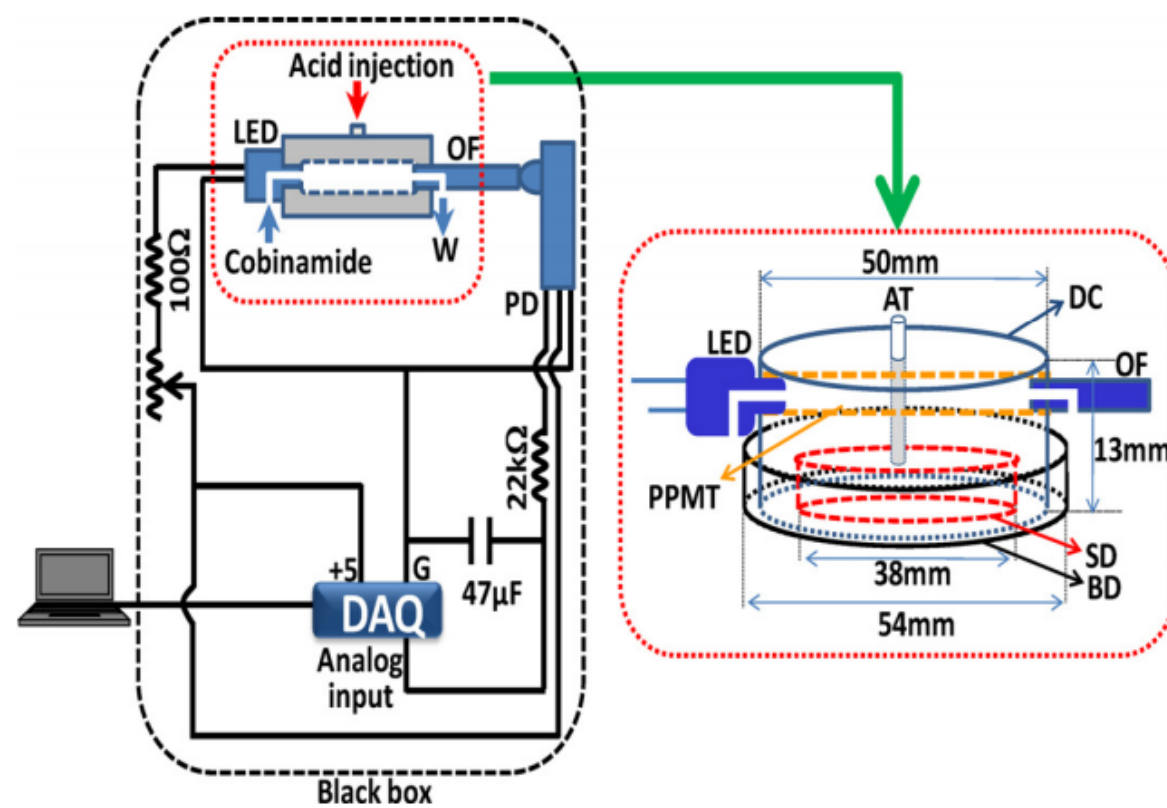


Figure 1: Diagram of the cyanide measuring device

### APPLICATIONS

- Agricultural/Environmental analysis
- Blood cyanide analysis

### KEY BENEFITS

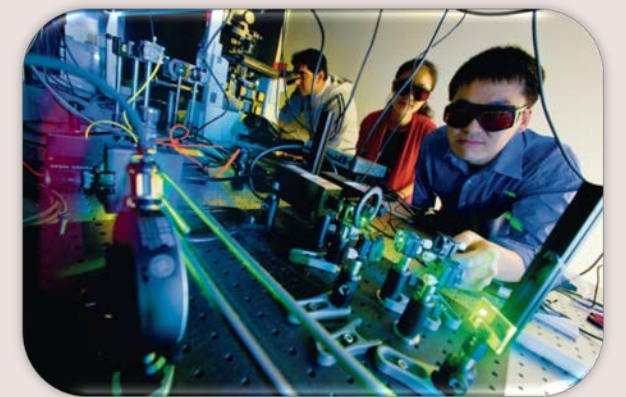
- Field usable
- Simple design
- Inexpensive
- Configurable for any volatile analyte that can be made to undergo a chromogenic reaction

### STAGE OF DEVELOPMENT

Lab tested for blood cyanide analysis and other applications.

### INTELLECTUAL PROPERTY STATUS

Patent Application: [WO2015106071 A1](#)



### Contact information

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