

Contact

Brian Wright
Auburn University
Office of Technology Transfer
334-844-4977
brian.wright@auburn.edu
<http://ott.auburn.edu/>
Reference: CD-ROM Biosensor

Inventors



Dr. Vitaly Vodyanov
Professor of Physiology
Dept. of Anatomy, Physiology
and Pharmacology

Alexei Samoylov
Student Researcher

Timothy Moore
Research Director

Overview

Auburn University is seeking a licensee or development partner for a novel optical biosensor based on CD-ROM technology. By adding binding elements for a given biological target to the surface of a compact disc, simple continuous monitoring of air samples can be performed. Potential applications for this technology exist in homeland security and defense.

Advantages

- High sensitivity
- Continuous monitoring, allowing for more thorough detection and more rapid analysis
- Provides high level of integration with existing technologies
- Adaptable to a variety of recognition elements, including antibodies and phage
- Portable

Description

Optical biosensors are devices in which a biological sensing element is coupled to an optical recognition system. Such systems must be sensitive enough to differentiate between minute changes in optical properties of the sensing media, as well as interpret these changes. These sensors are oftentimes utilized as indicators to show when unsafe biological samples are present in the air. Another challenge associated with current optical biosensors is the lack of capability to continuously monitor the surrounding air for the presence of targeted biological samples.

Auburn's CD-ROM based optical biosensor and method of sensing biological samples in the air includes treating the surface of a CD-ROM medium with a receptor capable of binding with a targeted biological sample. While continuous reading of the CD-ROM is conducted by a CD-ROM drive, an air-flow is directed through the CD-ROM drive, over and around the CD-ROM such that targeted biological samples present in the air will bind with the receptors. The laser reader of the CD-ROM device detects these biological samples as they obstruct the data blocks present on the CD-ROM. A processor of the CD-ROM drive determines whether an output signal is required, and if so, appropriately sends one to an output device.

Status

- A non-provisional U.S. patent application has been filed ([20060153015](#))

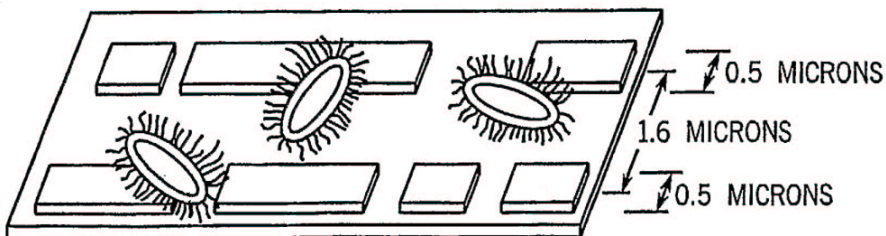
Licensing Opportunities

- This technology is available for exclusive or non-exclusive licensing
- Joint development opportunities include funded research or a joint venture

[Click here](#) for a listing of Auburn's available physical science technologies



Auburn University is an equal opportunity educational institution/employer



Schematic representation of bound target samples obstructing data blocks on the surface of a CD-ROM, providing a means for optical detection.