

Method for Packaging Advanced Sensors and Electronics (#4514)

<p>This technology integrates sensors and electronics for use in biological experiments and clinical diagnostics</p>

Inventors at Georgia Tech have developed a high density sensing platform that allows fluid delivery to a sensor array integrated with electrical interconnects to report sensor readings. These platforms utilize low cost wafer-scale semiconductor manufacturing technologies. Fluidic channels and sensors are fabricated on a silicon substrate with a second layer containing interconnected electronic leads to transmit sensor output. This invention also provides a new way of integrating microfluidic sensors with electronics and enables a new paradigm for biological based experiments.

Benefits/Advantages

- **High volume** — device can be used for simultaneous sensing of thousands of proteins or nucleic acid sequences
- **Cheaper** — utilizes low cost wafer-scale semiconductor manufacturing technologies
- **Versatile** — can be used for many chemical and biochemical sensors

Potential Commercial Applications

- Microfluidic sensors
- Study of gene expression and personalized medicine
- Disease detection

Background/Context for This Invention

Early detection is essential in effective cancer treatment. Many different sensor technologies are under development for this purpose and for a variety of other chemical and biological sensing applications. However, there is a need for these sensors to be packaged and connected with electronics to convey sensing results to make them suitable for clinical and commercial use.

Ramasamy Ravindran

CCO - WaterWayz

Muhannad S. Bakir

Professor - Georgia Tech School of Electrical and Computer Engineering

Patent/IP Information

U.S. Application Filed

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<https://patents.google.com/patent/US20110291643A1/en?q=20110291643>

Publications

For more information about this technology, please visit:

<https://licensing.research.gatech.edu/technology/method-packaging-advanced-sensors-and-electronics>