

Wearable Tech World News Feed

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Wolverines Working on Next Level Wearable Tech



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The University of Michigan is known for the 'Fab Five', the 'Big House' and Maize and Blue football, but today the wolverines may begin to garner some attention in a different space: wearable technology for disease monitoring.

[Graphene nanoelectronic heterodyne sensor for rapid and sensitive vapour detection](#), say that five times fast. Now let's discuss what this scientific sounding statement means—better sensor technology. In a nutshell, the graphene nanoelectronic heterodyne sensor prevents a bottlenecking issue with the sensor; hence, the University of Michigan is working on something revolutionary in the space of wearables.

The team's unique approach avoided the largest issue of air sensor developers in the past: strong bonds occurring between the sensor and the molecules it is attempting to detect. Graphene alleviates this issue while improving response times and device sensitivity. The technology can be placed in a low power chip, embedded in something the size of a badge that can be worn on the body.

To quote a member of the team, Girish Kulkarni, a doctoral candidate in electrical engineering, "Instead of detecting molecular charge, we use a technique called heterodyne mixing, in which we look at the interaction between the dipoles associated with these molecules and the nanosensor at high frequencies."

The Newly announced sensor detects airborne chemicals, released through the air or skin. For example, it can detect nitric oxide and oxygen, which are traditional markers for anemia, lung disease and high blood pressure.

Sherman Fan, professor of biomedical engineering at U-M, stated "Each of these diseases has its own biomarkers that the device would be able to sense... For diabetes, acetone is a marker, for example."

It is thought to be the first wearable that measures varied chemical as opposed to physical traits. The product is close to market, but not quite there yet. The team at the University of Michigan is working with the National Science Foundation's Innovation Corps program to take that next step.

The sensor's value is not simply in disease monitoring, it can also monitor air quality levels for labs and other such working environments.

This technological development could prove to be a giant leap forward for the use of wearable technology. With the space growing exponentially, and uses virtually endless, only time will tell what the future holds for Fan and his team in Ann Arbor.

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