Wearable and Flexible Sensors with High Sensitivity and Stretchability for Human Health Monitoring

Through rational material design and structural engineering, a range of wearable sensor systems —with high sensitivity, stretchability and durability to enable detection of subtle pressure/force changes associated with movement and health conditions—has been developed. These new sensors open the door to applications for monitoring the health of those with chronic diseases.

Competitive advantage

- High accuracy, quick to respond, robust and extremely durable
- Highly flexible and stretchable—it can be stretched up to 100% strain
- Easy data collection process through electrical resistance
- Low power consumption, in tens of microwatts
- Water resistance—encapsulated sensor is moisture proof and resistant to body fluids

Impact

- Early prediction and diagnosis of illness prior to the onset of symptoms
- Affordable, customised, user friendly, robust and rapid, and equipment free

Successful outcomes

- Demonstration of continuously monitoring physiological signals and human motion in a reliable, skin-conforming and non-intrusive manner.

Capabilities and facilities

- Mechanical test of sensor devices in terms of modulus and fatigue
- High accuracy measurements of electrical properties of sensor devices

Our partners

- Sydney Children's Hospital
- Neuroscience Research Australia (NeuRA)
- 3F Medical, Shanghai, China
- Defence Innovations, Melbourne

More Information

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