

# Non-contact sensors can detect a heartbeat up to a meter away

29 June 2010



(PhysOrg.com) -- Sensors that can detect a heartbeat up to a meter away are now a reality thanks to a team of scientists at the University of Sussex.

The Electric Potential [Sensors](#) (EPS) are the first electrical sensors that can detect precisely the [electrical activity](#) of the heart without direct resistive contact with the body. The new sensors will make monitoring a patient's heartbeat, whilst they relax in their hospital bed or in their home, easier and less invasive than ever before.

With commercial interest building quickly, the team of Sussex researchers believes the EPS will offer medical and home health professionals the opportunity to develop patient-friendly, self administered systems to monitor their vital signs with the minimum impact on their mobility.

The sensitivity of these sensors means they can also be used to detect muscle signals and eye movements and, in future, will be developed to detect brain and nerve-fibre signals. The EPS research group team, based in the University of Sussex's School of Engineering and Design, is lead by Dr Robert Prance, Professor of Sensor Technology.

Dr Prance said: "These sensors are the result of a sustained research programme at Sussex. For the first time we are able to detect electrical signals

from the body passively, without making physical contact, and in familiar environments such as the home or hospital."

Thanks to a South East Health Technology Alliance (SEHTA) grant, the team is currently working with in-home smart technology company PassivSystems to evaluate whether the sensors could be used to help elderly and frail people live independently in their homes by monitoring occupancy in a room and even whether someone's heartbeat has changed.

SEHTA Chief Executive Officer David Parry explained: "Remote telecare can play a crucial role in helping people to remain in their homes rather than going into sheltered accommodation, but the current Passive InfraRed sensors require movement to detect a person's presence and cannot easily differentiate between multiple people in a room. The sensors developed by the University of Sussex have incredible potential."

**More information:** For more information go to: [www.sinc.co.uk/sinc\\_companies/...ssex\\_ep\\_sensors.html](http://www.sinc.co.uk/sinc_companies/...ssex_ep_sensors.html)

Provided by University of Sussex

APA citation: Non-contact sensors can detect a heartbeat up to a meter away (2010, June 29) retrieved 20 September 2019 from <https://phys.org/news/2010-06-non-contact-sensors-heartbeat-meter.html>

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