

System, Device and Sensor for Monitoring Circulatory Conditions and a Method for Manufacturing the Same

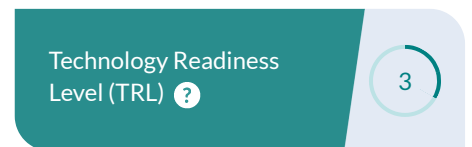
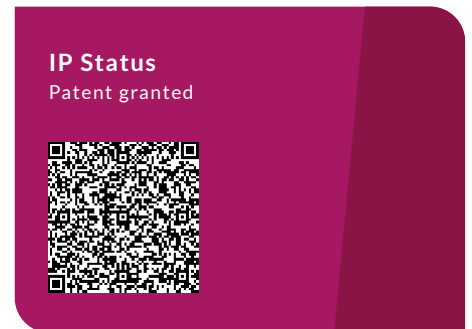
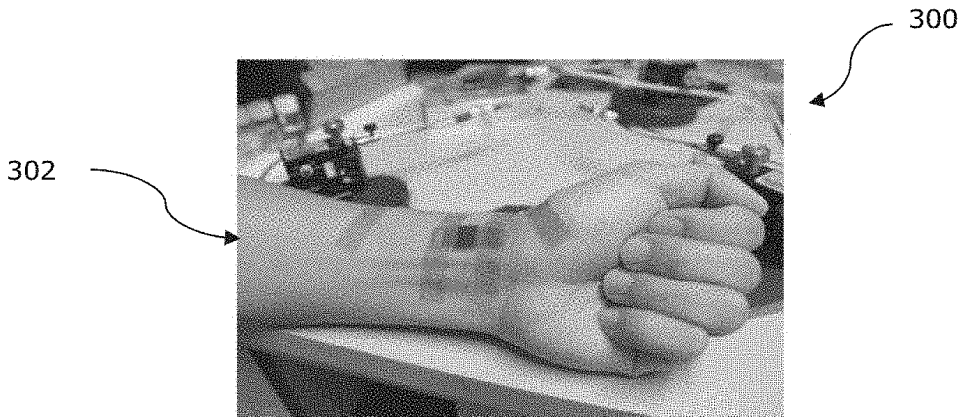


Health & Wellness

Biomedical and Genetic Engineering

Consumer Electronics

Sensors



Opportunity

Blood pressure is a fundamental marker of human (and animal) health and is a useful marker for determining any one of a number of medical conditions and diseases. It is a fundamental marker for doctors and health care professionals when attempting to diagnose the health of a patient.

It is particularly useful to monitor a person's blood pressure and heart beat in real time in an ongoing, continuous manner. However, existing blood pressure measurement devices have a number of drawbacks.

Firstly, blood pressure measurement devices which are capable of ongoing monitoring of a person's blood pressure are generally large, bulky and heavy, making them difficult or inconvenient to carry or transport to other locations.

Secondly, blood pressure monitors continue to be difficult to use for novices and non-medical professionals. It is difficult for a person to measure one's blood pressure without assistance.

Lastly, existing products are expensive and therefore not suitable for casual use.

Technology

The present invention is directed to a system, device and sensor for monitoring circulatory conditions and a method for manufacturing the same. In particular, embodiments of the system, device and sensor are arranged to monitor blood pressure and pulse.

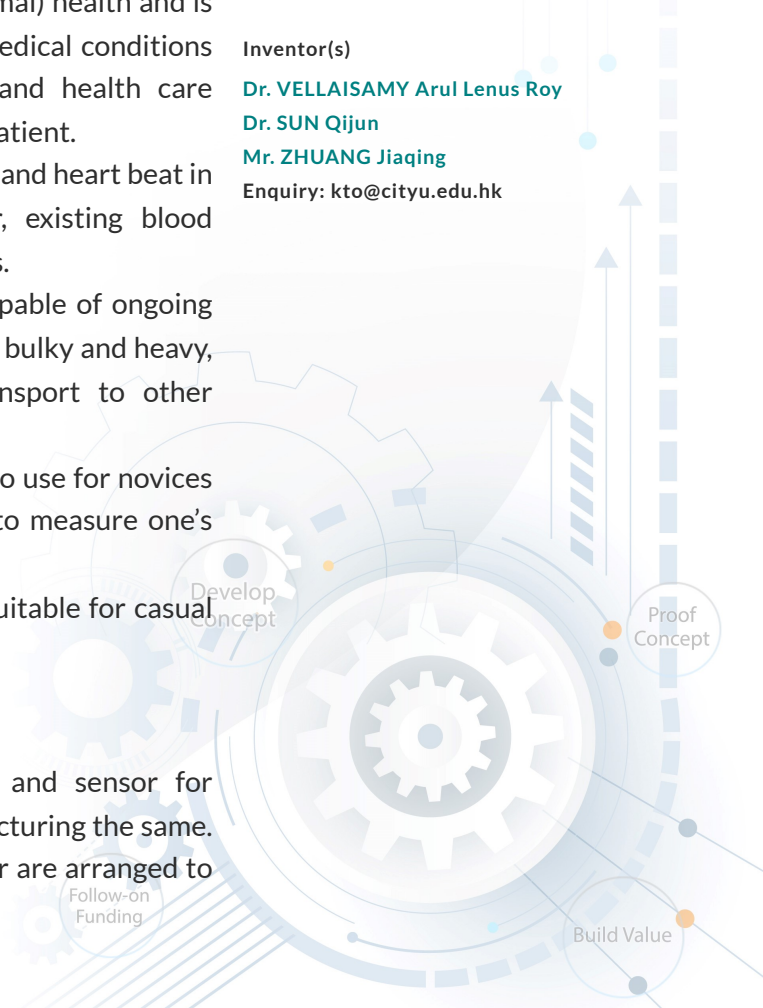
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A system and method of a sensor for monitoring a circulatory condition, comprising a layered structure having a graphite-composite bonded to a flexible substrate, wherein the sensor further includes a microstructure arranged to increase the sensitivity of the sensor.

Advantages

- The embodiments provide that occupies little space, yet is robust due to its flexibility and long-life stability.
- The embodiments provide a highly accurate sensor where the detection limit of the sensor is as low as several Pascal. As described herein, detection is reliable and highly reproducible, making the sensor highly attractive for small portable devices which are to be used by non-expert users.
- As the device and sensor have a low power consumption, the device can be powered by conventional battery technology.
- A further advantage of the embodiment is the use of low cost materials to fabricate the sensor (thereby reducing cost) and also the relatively simple fabrication method (which also reduces cost when compared to known sensors).

Applications

- Suitable for remote patient monitoring devices
- Elderly health alert system
- Can be used in maternity care trackers
- Employed as a sport science fitness testing equipment

