**Immobilising carbon nanomaterials in fibrous system for wearable applications**

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**ABSTRACT**

Carbon nanomaterials, such as carbon nanotube and graphene, have shown great potential in wearable electronics. However, textile-based flexible wearable electronics would require sensitivity, stability, safety, durability and wearing comfort of the end products to ensure the function and wellbeing. Understanding the micro-nano interfacial behaviour between embedded carbon nanocomponents and fibrous materials is the key to come up with scalable but reliable fabrication technology. Based on our expertise in textile technology, the team has been devoting in introducing carbon nanocomponents into fibrous system via surface engineering of fibres, advancing yarn fabrication technique and developing textile finishing technology. The as-developed flexible wearable electronics have demonstrated the application potential as wearable sensors and heaters with enhanced interface to ensure durability and comfort. Enhancing the interface of the introduced carbon nanomaterials within the fibrous system will benefit the development of next-generation wearable electronics with trustable functions and truly wearability.