
臺灣大學應用力學研究所
演 講 公 告

主 講 人：林宗宏副教授
清華大學生物醫學工程研究所

講 題：摩擦奈米元件的發展及其應用於能源收集及自供電應用

主 持 人：江宏仁副教授

時 間：110年3月8日（星期一）下午2時20分開始

地 點：臺灣大學應用力學研究所國際會議廳

☆☆ 歡迎聽講，敬請張貼 ☆☆

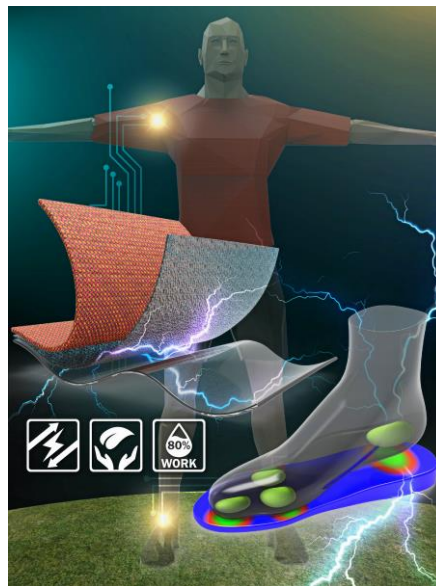
Self-Powered Sensors for Healthcare Applications

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As far as the development of wearable electronics is concerned, power supply has always been the bottleneck to overcome. In our group, we have utilized commercial textiles and proteins/hydrogels to fabricate biocompatible, portable, and lightweight nanogenerators to harvest biomechanical energy from human motions to directly power wearable electrochemical systems for humidity/temperature/sweat detections (ions, glucose, and lactate) and antibacterial applications. In addition, through the functionalization of devices surface, those nanogenerators evolve into self-powered bio(chemical) sensors. They can be triggered directly by biomechanical motions or body heat instead of external power supply. The varied generated electric outputs are observed when those functionalized nanogenerators detect target ions/molecules. With the simplicity (no complex circuitry or power supply involved) and low-cost fabrication process (minimal and low-priced materials required), the developed sensors and systems show their adaptability to be integrated with next-generation smart clothes.



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