Specialty Fabrics
REVIEW

Energy from fabric

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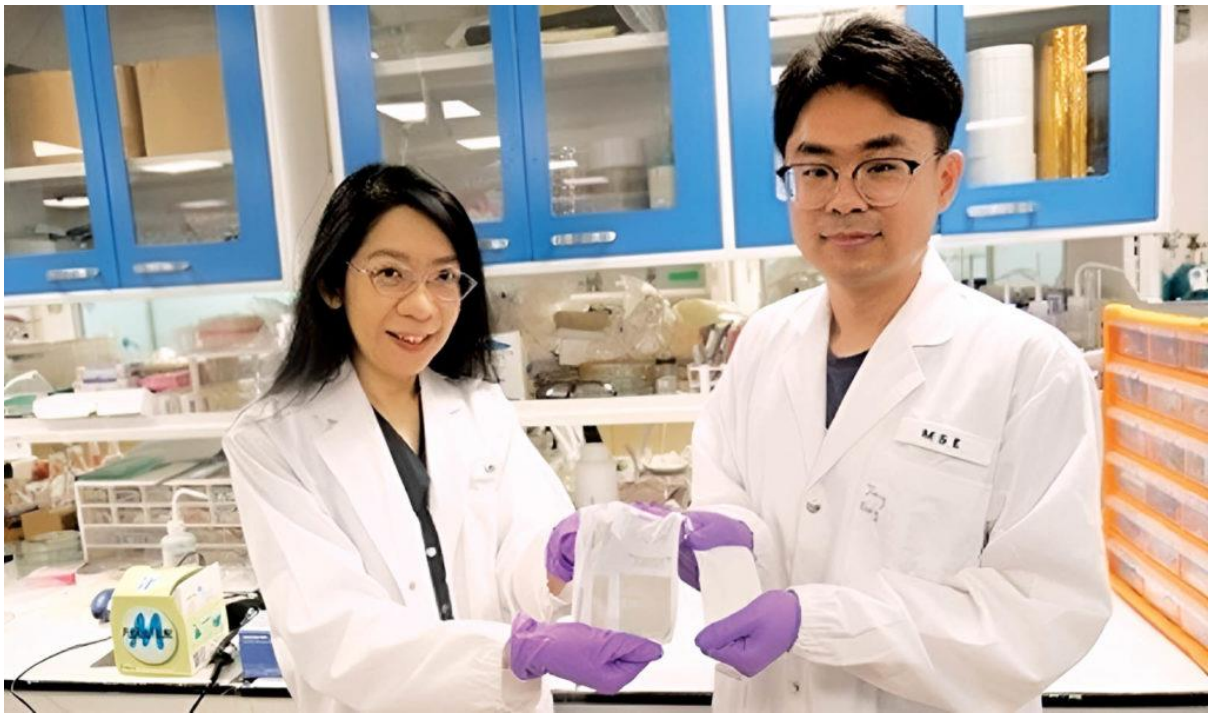

Researchers from Nanyang Technological University have developed a fabric that turns body movements into electrical energy. Photo: NTU

Scientists at Nanyang Technological University (NTU) in Singapore have developed a stretchable and waterproof fabric that turns energy generated from body movements into electrical energy.

A crucial component in the fabric is a polymer that, when pressed or squeezed, converts mechanical stress into electrical energy. It is also made with stretchable elastane (spandex) as a base layer and integrated with a rubber-like material to keep it strong, flexible and waterproof.

In a proof-of-concept experiment, the team from NTU showed that tapping on a small piece of the new fabric generated enough electrical energy to light up 100 LEDs. Washing, folding and crumpling the fabric did not cause any performance degradation, and it could maintain stable electrical output for up to five months.

The scientists envision that their prototype could be woven into T-shirts or integrated into the soles of shoes to collect energy from the body's smallest movements, piping electricity to mobile devices.

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