



Scientists invent super thin, flexible fabric that generates electricity from light and movement

AM By Bridget Brennan

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PHOTO: It has taken researchers about two years to develop the fabric. (Supplied: Zhong Lin Wang)

If you are often stuck out-and-about with low battery and no phone charger, imagine being able to generate power from your T-shirt.

Scientists say they have invented a super thin fabric that generates electricity from sunlight and movement.

It has taken Chinese and US researchers about two years to develop the fabric, which they say is a flexible and foldable power source that can be used on-the-go.

Professor Zhong Lin Wang, a materials scientist from the Georgia Institute of Technology in Atlanta, said his team's invention could be used to monitor health indicators including heartbeat, body temperature and even a person's geographical position.

"This has applications for medical purposes, infrastructure monitoring, security and many other areas," he said.

As the fabric moves, it generates electricity.

"If you're walking [and] your jacket is flicking back and forwards, you can harvest this kind of motion energy to charge your cell phone," Professor Zhong said.

To power small electrical devices, the material needs sunlight or movement.

"So you can use whatever energy is available, whenever it is available," Professor Zhong said.

He said wearing the fabric would not look out of the ordinary.

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Key points:

- Super thin fabric generates electricity from sunlight and movement
- Fabric can be used as portable power source, for medical purposes, infrastructure monitoring and GPS location
- Scientists expect it to be on the market within two years



"It looks like conventional fabric, except that the fibre is a little thicker than conventional fibres, but it is fully flexible and made into cloth, so you can see a piece of fabric but it's a power generator," Professor Zhong said.

PHOTO: The fabric is charged by movement, or the sun and can be used for powerful, wearable electronics. (Supplied: Professor Zhong Lin Wang)

Easy to recharge wearable electronics

The scientists think the fabric could be on the market in about two years.

It could be especially useful for flexible electronics — wearable portable electronic devices that need a power source.

"So this community is now is fast expanding for health monitoring, medical purposes, and they have a need for powerful small electronics," Professor Zhong said.

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AUDIO: Professor Zhong Lin Wang explains his invention to ABC reporter Bridget Brennan (AM)

"We have received a number of requests from those industries and research institutions."

The research has been published in the journal Nature Energy.

Topics: inventions, science-and-technology, electricity-energy-and-utilities, united-states, china, australia

